Innovative methods of treatments in traditional Russian and Chinese medicine
XVI Russian-Chinese Biomedical Forum

“中俄傳統治療方法的創新”
ИНОВАЦИОННЫЕ МЕТОДЫ ЛЕЧЕНИЯ В ТРАДИЦИОННОЙ РОССИЙСКОЙ И КИТАЙСКОЙ МЕДИЦИНЕ
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CLINICAL EFFICACY OF ACUPUNCTURE AND PHARMACOPUNCTURE IN THERAPY OF CHRONIC CEREBROVASCULAR INSUFFICIENCY

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Abstract
80 patients with chronic cerebrovascular insufficiency were examined, 40 of them received acupuncture and pharmacopuncture (the main group) and 40 patients (comparison group) - conventional therapy. The combination of acupuncture with pharmacopuncture led to a significant decrease in the severity of complaints of headache, dizziness, head noise, sleep disturbance, anxiety, fatigue. The greatest degree of correlation between the regression of neurological manifestations and the therapy of patients of the main group was observed in the appointment of reflexotherapy at the earliest possible time from the exacerbation of symptoms of chronic cerebrovascular insufficiency.

Key words: chronic cerebrovascular insufficiency, pharmacopuncture, acupuncture.

Optimization of therapy for chronic cerebrovascular insufficiency is one of the most urgent problems of neurology, the significance of which is due to the high percentage of working-age patients. Among a large number of modern pharmacological agents, it is possible to single out the homeopathic preparation of HEEL (Germany) - the cerebrum compositum, combining the possibility of application in the form of pharmacopuncture together with acupuncture.

Objective
The purpose of this research was to study the clinical efficacy of pharmacopuncture with the drug cerebrum compositum and acupuncture in the treatment of the main manifestations of chronic cerebrovascular insufficiency.

Materials and methods
80 patients with chronic cerebrovascular insufficiency were examined, of which 40 people were comprised in the main group (dyscirculatory encephalopathy of stage II and stage III) and 40 - in the comparison group (patients with similar nosological forms). The average age of the examined was 59 years, the number of men was 52, women - 28. All patients in the comparison group received conventional therapy, patients of the main group were prescribed acupuncture (10 procedures) and pharmacopuncture (3 procedures every 3 days - together with acupuncture, 3 procedures - through 1 week after the end of the course of acupuncture). For pharmacopuncture, subcutaneous injections of cerebrum compositum (HEEL, Germany) were applied to biologically active points with vascular action, to local points on the limbs and paravertebral points C1 to C7 in order to improve microcirculation. Then, techniques for biostimulating and metabolic action were applied.

Results and discussion
Before admission to the hospital in the absolute majority of patients in both groups, chronic cerebrovascular insufficiency was manifested by progressive impairment of brain function, neuropsychic disorders and repeated episodes of acute dyscirculation as a result of disruption of autoregulation of cerebral hemodynamics. The use of acupuncture and pharmacopuncture led to a significant decrease in the intensity of complaints of headache, dizziness, head noise, sleep disturbance, anxiety, fatigue. Moreover, the greatest degree of correlation between the regression of neurological manifestations and the therapy was observed with the appointment of reflexotherapy as soon as possible from the moment of exacerbation of symptoms of chronic cerebrovascular insufficiency. The patients of the main group received a positive effect on the decrease in the severity of asthenoneurotic and psychosomatic manifestations in chronic cerebrovascular insufficiency. The first positive signs were registered at the end of 2-3 weeks of treatment. Significant effect on systemic hemodynamics course application of a combination acupuncture and pharmacopuncture did not have. Mean values of systolic blood pressure, diastolic blood pressure and heart rate were initially 147 ± 5 mm Hg, 91 ± 6 mm Hg. and 67 ± 8 bpm, and after treatment, respectively, 134 ± 8 mm Hg., 83 ± 5 mm Hg. and 69 ± 8 bpm. However, the use of combined reflexotherapy together with small doses of antihypertensive agents (angiotensin converting enzyme inhibitors) had a significant positive effect
on both systemic and cerebral hemodynamics. Light and moderate memory impairment and attention was recorded among patients of both groups. At the same time, in patients of middle and young age, after the course combined reflexotherapy, there was an improvement in mnestically intellectual functions (in 74%), manifested in the form of improvement in short-term memory and concentration of attention, a significant reduction in the processes of exhaustion under prolonged stresses. Early onset of combined reflexotherapy with increased dyscirculary disorders allowed to stop (in 31%) or significantly reduce the severity (in 62%) of clinical manifestations, contributed to the formation of a more stable remission. No side effects were observed during or after a course of acupuncture and pharmacopuncture in patients of different age groups.

**Conclusions**

Thus, the use of acupuncture with pharmacopuncture by the cerebrum compositum has a regulating effect on the main links of the pathogenesis of chronic ischemia, which contributes to a positive restructuring in patients with chronic cerebrovascular insufficiency.

1. Combined application of acupuncture and pharmacopuncture of the drug cerebrum compositum positively influences microcirculation and shows high clinical efficiency in the treatment of discirculatory disorders of various genesis.

2. It is necessary to include the combined use of acupuncture and pharmacopuncture by the cerebrum compositum in the early periods from the moment of worsening of discirculatory disorders in the therapy of chronic cerebrovascular insufficiency.

3. For patients with severe forms of chronic cerebrovascular insufficiency, it is most justified to begin treatment with the course of drug treatment with the subsequent application of combined reflexotherapy.

4. Combined reflexotherapy is safe for long-term courses of treatment of elderly patients, which is crucially important in chronic cerebrovascular insufficiency, since this pathology is enhanced in patients of older age groups.

**References**


**THE DIVERSION COLITIS AND ITS CORRECTION IN EXPERIMENT**

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**Abstract**

The result of experiment of diversion colitis prophylaxis by Dihydroquercetinum usage is presented in this paper. On the basis of the analysis it was noted that Dihydroquercetinum is perspective substance to use as a prophylactic and cure method for diversion colitis.

**Key words:** diversion colitis, Dihydroquercetinum, quality of life, experiment

Diversion colitis (DC) occurs in 70% cases of the distal parts of the colon recovery after colostomy. Due to literary data, this causes decreasing of the maximal tolerable volume from 157 ml to 87 ml in 3 months after colostomy with rectal stump less than 22 cm. Subsequently, this causes to large intestine function aggravation after recovery surgery and as a result to decreasing of the patients’ life quality. Some methods of the pharmaceutical correction of DC were described.

**Objective**

The purpose of the research - to improve patients’ life quality after recovery surgery about colostomy.

**Materials and methods**

We described new method of DC prophylaxis and treatment (Patent of Russian Federation
№2544340 from 20.02.2014) with the use of the Dihydroquercetinum (DHQ) solution.

DHQ has anti-inflammatory, antioxidant, wound healing and antitumor effects. Our method consist of instillation of the 0.5% DHQ solution to the rectum till the sense of the rectum filling twice a day every day to recovery surgery. This method was tested experimentally

We used 60 white laboratory rats both male and female. All rats were passed through surgery with double-barreled colostomy creation under thiopental anesthesia.

All rats were divided for 3 groups by randomization with random number method with the use special software. The main group was consist of 20 rats with the prophylaxis of the DC by described method with DHQ. Control-1 group was consist of 20 rats with prophylaxis of the DC by camomile infusion instillation by the same scheme. The control-2 group - 20 rats with colostomy without any prophylaxis methods of the DC usage. All experimental rats were put to death in 3 and 6 months with subsequent histological investigation by thin and ultra-thin microscopy.

Results and discussion

Macroscopically were found that involution of the diversion large intestine occurs in rats without prophylaxis of the DC (control-2 group). Diversional large intestine had a view of tight structure without intestinal lumen and ability to dilate during solution instillation. The rats of the control-1 and Main groups had statistically true difference in size of the diversion intestines. The rats of the main group had no statistical difference with normal value by size of diversion intestines and its elastic features in empty and filled by solution condition. Control-1 and control-2 groups rats had different stages degenerative-dystrophic and inflammatory changes by microscopic investigation. On the another hand, the main group rats were characterized by safety of the size and structure of the intestinal wall, as a cellular composition of the intestinal crypts and absence of the any signs of degeneration and inflammation.

Conclusion

Our experimental work has shown us DHQ to be perspective substance to use as a prophylactic and cure method for DC.

References


KIDNEY DYSFUNCTION IN PERSONS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Abstract

Chronic obstructive pulmonary disease (COPD) is a pathology with a spectrum of systemic effects, one of which is impaired renal function. Currently in clinical medical practice there is an underestimation of the frequency of renal dysfunction in people with COPD, while in-depth and targeted studies reveal changes in renal tissue function.

Key words: chronic obstructive pulmonary disease, albuminuria, glomerular filtration rate
Chronic obstructive pulmonary disease (COPD) is an urgent problem of modern medicine. Currently, COPD is considered as a disease with a wide comorbid background [1] and signs of damage to both the respiratory tract and systemic manifestations, while structural and functional disorders of the respiratory tract lead to changes in the homeostasis in the cardiovascular system [4], anemia, impaired mineral metabolism in bone tissue [5], renal dysfunction [2]. Currently, there is an accumulation of data on the effect of COPD on kidney function, which determines the relevance of the study.

Objective
To assess the functional status of the kidneys in patients with COPD, depending on the categorization of the disease according to the ABCD scheme.

Materials and methods
The study included 50 smoking patients with COPD of III spirometric severity according to GOLD (severe), mostly men (84%) treated in the outpatient and inpatient stages in 2017-2019. The mean age (SD) of the examined individuals was 58.12 (2.2) years. The duration of COPD was 12 (4.1) years, the smoker index (SI) was 30.1 (10.2) packs / years, and the body mass index was 24.15 (4.2). The diagnosis of COPD was set in accordance with the recommendations of the Global Initiative on Chronic Obstructive Lung Disease, 2017. Depending on the categorization of the disease, the patients were divided into 3 equivalent groups: 1st group (n = 15) - persons belonging to category B, 2nd group (n = 18) - patients of category C, 3rd group (n = 17) - persons of category D. A set of groups of healthy individuals (n = 20), comparable to patients with COPD by sex and age composition, SI and BMI, was used to determine the reference values of the studied parameters. The severity of dyspnea was determined using the modified Medical Research Council (mMRC), the impact of clinical symptoms on the daily activity of patients was assessed during COPD Assessment Test (CAT). The frequency of exacerbations of COPD over the previous year was estimated retrospectively. The concentration of albumin in the urine (AU) was determined by the immunoturbidimetric method, the glomerular filtration rate was calculated by the level of serum creatinine (GFR) using the CKD – EPI formulas for 2009 in the modification of 2011. Statistical processing of the material was performed using the Microsoft Excel service and the Statistica 10 program. When comparing groups, the Student’s t-criterion and the z-criterion were used. The results of the study were taken as statically significant when the value of p <0.05. Quantitative data are presented in arithmetic mean and standard deviation (M (SD)).

Results and discussion
During the study, a significant excess of AU values and a decrease in the GFR of patients with COPD were found in comparison with healthy individuals. Exceeding the normal values of AU in group 1 occurred in 33.3% of cases, in group 2 - in 50% of cases, in group 3 - in 83.3% of cases, which is significantly higher than in group 1 (p <0.05) . The presence of statistically significant differences in the level of AU between groups 1 and 3 (p = 0.016), 2 and 3 (p = 0.006) was noted, with the maximum average value of AC being observed in group 3 and was 43.29 (25.58) mg / l. The average value of the GFR in the total cohort of persons with COPD was 78.61 (17.94) ml / min. /1.73 m², which, according to modern data [3], falls under C2, the category of GFR. 16.0% (n = 8) of the total number of all patients with COPD showed signs of chronic renal failure (CRF) - the GFR was less than 60 ml / min. (1.73 m²). Significant difference in the frequency of occurrence of reduced values of GFR between groups was not detected. When comparing the mean values of GFR in different groups of patients, significant differences were found between groups 1 and 2 (p = 0.015), 1 and 3 (p = 0.006), while the minimum GFR was observed in group 3 and was 68.14 (18.78) ml / min / 1.73m².

Conclusions
According to our data, in patients with severe COPD, the incidence of renal dysfunction is high and increases with the category of the disease. Thus, according to the values of AU, patients of category B have impaired renal function in every 3rd patient, in category C, in every 2nd patient, in category D, in almost every patient examined. When assessing GFR, there was a slight decrease in the index in the general group of patients, and in 8 (16.0%) patients there were abnormalities of
THE OBSTRUCTIVE SLEEP APNEA SYNDROME AND SNORE PHENOMENON

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Abstract

The article gives the reasons for the occurrence of snoring in children. The prevalence of snoring in patients and children in the city of Blagoveshchensk and the Amur Region has been studied. The phenomenon of snoring is revealed in 43% patients and 29% of children. The authors proposed surgical and conservative options for correcting the phenomenon of snoring. The effectiveness of the techniques reached 86-89%.

Key words: Phenomenon of snoring, obstructive sleep apnea syndrome.

The snore is known to be the acoustic phenomenon developing in the result of vibration of oropharyngeal structures during inhalation in incomplete obstruction of the upper respiratory tract. It occurs in 43 %of cases of adults. The presence of rhino – and stomatopharyngeal hypertrophy in children contribute to the air space decrees of the latters and to appearance of snore phenomenon and syndrome of obstructive sleepy apnea (SOSA) syndrome. In our literature there are no data touching upon the problems of children’s snore in different age groups. There are only some observation on the limited number of patients which do not reflect the importance of this problem.

In 95% of cases obstructive sleep apnea syndrome (SOSA) is accompanied by snoring. Snoring is its objective symptom of SOSA, and patients with snoring are considered as a group of patients at high risk for apnea. Respiratory arrest during sleep lead to the development of persistent pulmonary and systemic hypertension, disruption of the electrical stability of the heart, the development of brady- and tachycardia, atrioventricular blockades, ventricular extrasystole, the appearance of ischemic and hemorrhagic stroke. The mortality from SOSA can reach from 6 to 11%.

Objective

Determination of epidemiology and prevalence of different chronic disorders contributing to the development of snore in children and elimination it’s clinical manifestation with the help of surgical and conservative methods of treatment in the urgent problem at present.
**Materials and methods**

Questionaire among 860 children in different age groups in Blagoveshensk and Amur region was held to study the epidemiology of child snore in different aged groups and to plan special medical aid. It was determined that 29 % of cases of asked children suffer from snore phenomenon, of them 0,6 % suffer from snore phenomenon till the 1 year of age;22,7 % - till the 1-3 years of age; 28,7 % - till the 4-6 years of age; 30,3 % - till the 7-11 years of age; 6,8 % - till the 12-14 years of age; 10,9 % - till the 15-18 years of age. The syndrome of obstructive sleepy apnoë was found in 12 (4,8 %) children suffering from snore.

Of all questionaired children chronic disorders of nasopharyngeal organs were revealed in 41,2 % of cases, of them in 290 (81,7 %) children chronic disorders of nasopharyngeal organs contributed to the development of snore phenomenon. Patients who are older then 10 years with the purpose of diagnostics of anatomy-physiological preconditions of development of snore and syndrome of obstructive sleepy apnea was carried out a magnetic-resonance tomography.

72 % of the revealed patients with snore phenomenon and all patients with SOSA were performed surgical and conservative treatment aimed at the elimination of predisposed factors and pathologic processes in nasal cavity, perihinal sinuses, pharynx and larynx, contributing to the development of the pathology given.

**Results and discussion**

Surgical treatment allowed to eliminate of snore and SOSA in 86,4 % of cases in different aged groups of patients. Conservative therapy in patients with hypertrophy o lymphadenoid pharynx tissue including both the traditional and antioxidant therapy with the use of different kinds of low intensive lases promoted the elimination of this pathology in 89,2 % of cases of patients.

We have developed several of Laser Uvulopalatoplasty (LUPP) performed with Nd:YAG laser in contact mode and continious wave. The first type of the procedure consists of 5-7 mm long incisions with laser on the mucosa of the soft palate without damage of mucosal pharyngeal surface of soft palate, if necessary, 2/3 of the uvula may be excised. The second type consists of two steps. First, contours for forthcoming resection are made with subsequent resection of soft palate mucosa duplication 5-7 mm wide. In third LUPP type we have preserved about 1,5 cm of soft palate with a creation of new uvula. We evaluated the functional results of the surgery by the repeated polysomnography in 4 weeks after LUPP with simultaneous registraion of snoring frequency.

Thus, children suffering from severe form of snore phenomenon and SOSA belongs to the risk group according to the syndrome of sudden death. Questioniried children conducted enabled to reveal a group of such patients and direct them for the specialized treatment during which predisposed factors contributing to the development of the given pathology had been eliminated.

It appears that contact Nd:YAG laser is highly comfortable in use, allows to provide LUPP, contribute to soft palate wrinkling because of scarring, increases pharyngeal air volume and decreases the number of apnea/hypopnea episodes in patients suffered from obstructive sleep apnea syndrome. Laser uvulopalatoplasty (LUPP) was used in the treatment of patients with SOSA, which in the period from 2002 to 2017 years was performed in 1338 patients, including patients with SOSA were 298 people, which amounted to 22.3% of the total number of patients with the phenomenon of snoring and SOSA. LUPP allowed to achieve the disappearance of the phenomenon of snoring and episodes of apnea and hypopnea with mild apnea severity in 98% of patients and a decrease in the number of episodes of apnea and hypopnea in patients with moderate and severe apnea in 68.7% of cases, which was confirmed by the results of HCRM.

**References**


INFLUENCE OF REAMBERIN ON ANTIOXIDANT STATUS OF PATIENTS WITH OVARIAN CANCER

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Abstract

Studied the antioxidant activity of reamberin of the patients with ovary cancer of the IIIrd C stage by FIGO: 34 patients with polychemotherapy received the drug reamberin (Polysan, St.Petersburg, Russia) intravenously 400 ml of the solution for infusion of 1,5% at a speed of 40 – 80 drops/min (2 - 4 ml/min) 1 times a day within 5 days; 30 patients (control group) received only polychemotherapy. Efficacy was evaluated by the content of lipid hydroperoxides, diene conjugates, malonic dialdehyde and activity of the major components of the antioxidant system (ceruloplasmin, vitamin E) in blood of patients. The inclusion of reamberin in the treatment of patients with ovary cancer should be considered as pathogenetically justified, clinically justified and promising.

Key words: reamberin, ovary cancer, blood plasma, antioxidant status, patients.

Objective

Ovarian cancer, diagnosed mainly in the III – IV stage of the disease, is an urgent problem of modern oncology. Malignant ovarian tumors are sensitive to polychemotherapy, but a sufficiently high toxicity of chemotherapy drugs, leading to the development of complications and endogenous intoxication syndrome, often limits its possibilities. In connection with the above, there is a need to develop evidence-based approaches to polychemotherapy of ovarian cancer, based on the use in the scheme of complex treatment of drugs with antioxidant and antihypoxant action.

Materials and methods

Studied the antioxidant activity of reamberin of the patients with ovary cancer of the IIIrd C stage by FIGO: 34 patients with polychemotherapy received the drug reamberin (Polysan, St. Petersburg, Russia) intravenously 400 ml of the solution for infusion of 1,5% at a speed of 40 – 80 drops/min (2 - 4 ml/min) 1 times a day within 5 days; 30 patients (control group) received only polychemotherapy. Efficacy was evaluated by the content of lipid hydroperoxides, diene conjugates, malonic dialdehyde and activity of the major components of the antioxidant system (ceruloplasmin, vitamin E) in blood of patients.

Results and discussion

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The introduction of reamberin patients contributed to a significant decrease in plasma lipid hydroperoxides on 27%, diene conjugates – by 16%, malonic dialdehyde – on 30% compared with patients in the control group. While analyzing the effect of the succinate containin drugs on the activity of components of antioxidant system it was found that the levels of ceruloplasmin in the blood was higher than in patients of control group in 68%, vitamin E – 13%.

Thus, the inclusion of reamberin in the treatment of patients with ovary cancer should be considered as pathogenetically justified, clinically justified and promising.

References

GENETIC POLYMORPHISM

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Abstract
99.9% of genes are the same for all people. The individual characteristics of each of us are called genetic polymorphism, determined by only 0.1% of genes and manifested as a single nucleotide polymorphism, restriction fragment length polymorphism, and short tandem repeats. Based on the analysis of genetic polymorphisms, it is possible to create a genetic passport, which is an individual DNA database, reflecting the unique genetic characteristics of each person, his
susceptibility to certain diseases. The results of modeling the 3D structure of the protein of the nervous tissue, characterized by polymorphism in the form of tandem repeats of glutamine residues at the N-terminus of the polypeptide chain, are of interest for the creation of targeted drugs by computer design.

Key words: polymorphism, restriction fragment length polymorphism, short tandem repeats, genetic passport.

In humans, the share of structural genes (exom), coding for more than 100,000 individual proteins, accounts for only 1-3% of all DNA. About 16% of the DNA regulate the expression of structural genes. The role of more than 80% of DNA is not known today. 99.9% of genes are the same for all people. Individual characteristics are determined by only 0.1% of genes. A relatively small difference in the genes of any of us is of fundamental importance, since it determines our individuality. Genetic polymorphism or genetic diversity - a different variation of the gene) [1,2]. The presence of gene polymorphism explains the changes in the proteome. Genetic polymorphism may be due to the replacement of nucleotides, duplication, insertions, depositions, nucleotide repeats. Genetic polymorphism may be quantitative or qualitative. Some of the polymorphisms are quite common, others are very rare [3]. Based on the analysis of genetic polymorphisms, it is possible to create a genetic passport, which is an individual DNA database, which reflects the unique genetic characteristics of each person, his susceptibility to diseases.

The following main types of genetic polymorphism are distinguished. Single nucleotide polymorphism (SNP) - differences in DNA sequence of one nucleotide size (A, T, G or C) in the genome of representatives of one species or between homologous regions of individual homologous chromosomes. SNPs result from point mutations and are especially important for the molecular diagnosis of diseases. A wide range of diseases - cancer, infectious, autoimmune diseases, sickle cell anemia, etc. are associated with single nucleotide polymorphism [4]. DNA sequencing is used to identify genetic polymorphism — determining the sequence of nucleotides in a polynucleotide chain. Restriction fragment length polymorphism (RFLP) is a method for studying DNA by cutting it with endonucleases and determining the size of the resulting fragments (restricts) using gel electrophoresis. Short tandem repeats are varying regions (loci) in nuclear and mitochondrial DNA consisting of tandemly repeating monomers with a length of less than 9 base pairs. They are widely used molecular markers in genetic and genomic research. The increase in the number of recurring elements of microsatellites in exons or in regulatory genes is associated with the development of neurological diseases [5]. The development of Huntington's chorea is a consequence of a mutation in the first exon (EX1) of the type of short tandem repeats, leading to an increase in the number of repeated glutamine residues of the huntingtin (mHtt) from the N-terminus of the chain, which can reach 250 or more. The time of onset of the disease and its severity directly depend on the number of repeats. In the mutant mHtt protein, the polyglutamine region acquires a toxic conformation in the form of a β-structure, as a result of which the protein aggregates and precipitates in the form of amyloid fibrils. [6]. In connection with the above, Htt represents the target in the development of new effective drugs created using computer design. To create such tools requires knowledge of the tertiary structure of the protein (3D-structure), which is currently not installed.

We have proposed an approach consisting in modeling the 3D structures of individual sections of the Htt polypeptide chain with the latter being combined into a single molecule in the end [7]. The study used the database UniProt and NCBI Protein http://www.ncbi.nlm.nih.gov/protein to search for the primary Htt sequence in the FASTA format. The primary sequence was conventionally divided into 11 sections of ~ 300 AMK (142 AMK in 11 areas) in each. For each site, we searched for a protein template with a known tertiary structure using the BLAST algorithm and built a 3D model based on the SWISS-MODEL server https://swissmodel.expasy.org/. It is noteworthy that the template proteins for each site belonged to different groups according to their biological properties. Therefore, it is possible to assume the multifunctional physiological role of Htt. The resulting 11 models were loaded into Chimera 1.11.2, where between them the creation of peptide bonds was carried out with the formation of the 3D model of Htt [8].
The possibility of sequencing individual genomes introduces an individual approach to the treatment and prevention of human diseases and is the fundamental basis of personalized medicine, taking into account the characteristics of the genomes of individuals, which determine the propensity of a person to develop this or that disease.

![3D-structures of the separate fragments (left) and the whole molecule of Htt (right).](image)

References

PHARMACOLOGICAL CORRECTION OF COLD ADAPTATION IN EXPERIMENT


Abstract
The results of investigations aimed at the solution of the important problem – protection of the organism from stress and ecologically unfavourable factors of the environment are presented. In experimental conditions the possibility to correct free radical lipid oxidation of rats’ organism
membranes was studied with the introduction of the cytoflavin. The application of the cytoflavin in
the conditions of long influence of cold on the organism of animals under experiment leads to the
stabilization of the processes of peroxidation against the increase of antioxidant system activity.

**Key words:** cold adaptation, cytoflavin, lipid peroxidation, antioxidant system, rats.

When the body adapts to the cold, there is a shortage of bioenergetic resources and tissue
hypoxia, which is based on the discrepancy between the need for tissues in oxygen and its delivery,
associated with a violation of oxidation as a result of difficulties in the transport of electrons in the
respiratory chain of mitochondria. Promising from these positions is the use of drugs containing
succinic acid, which is one of the metabolites of the Krebs cycle, the exogenous flow of which
restores the processes of energy exchange.

**Objective**
To study the effectiveness of cytoflavine in the adaptation of warm-blooded organism to
cold.

**Materials and methods**
In experimental conditions the possibility to correct free radical lipid oxidation of rats’
organism membranes was studied with the introduction of the succinate containing drug called
cytoflavin (Polysan, St.Petersburg). The animals were divided into 3 groups and each of them had
10 rats: the group with intact animals which were held in standard conditions of vivarium; the
control group in which rats were exposed to cold during 3 hours daily for 21 days; the experimental
group in which before the effects of cold animals had a daily intra-abdominal intake of the
cytoflavin in a dose of 100 mg/kg. The intensity of peroxidation processes was assessed by
examining the contents of hydroperoxides lipids, diene conjugates, malonic dialdehyde and the
main components of the antioxidant system, (ceruloplasmin, vitamin E) in the in the blood of
animals. The results obtained were subjected to statistical analysis with calculation of parametric
criteria Student.

**Results and discussion**
It is established that daily cold influence during three hours contributes to the increase of
lipid hydroperoxides level, of diene conjugate, of malonic dialdehyde against the decrease of
antioxidant system activity in the blood of animals under experiment. The introduction of the
cytoflavin to rats in the conditions of cold influence contributes to the reliable decrease in the blood
of lipid hydroperoxides by 13-21%, of diene conjugates – by 24-25%, malonic dialdehyde – by 20-
33% in comparison with the rats of the control group. While analyzing the effect of the cytoflavin
on the activity of the components of antioxidant system it was shown that the level of ceruloplasmin
and of vitamin E in the blood of animals was reliably higher than analogous indicator in rats of the
control group by 10-33%.

**Conclusions**
Thus, the application of the cytoflavin in the conditions of long influence of cold on the
organism of animals under experiment leads to the stabilization of the processes of peroxidation
against the increase of antioxidant system activity.

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METALLOTHIONEINS AND S-LAYER PROTEINS OF MICROORGANISMS. BIOINFORMATIC STUDY

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Abstract

Microorganism play an important role in the biomineralization of gold. Two types of proteins participate in this process, namely, Slayer proteins and metallothioneins. These proteins may be used for the creation of biosensors based on hybrid microorganisms obtained by genetic engineering methods with high affinity for gold ions. We used bioinformatic methods to obtain information about the primary structures of these proteins in FASTA format, to conduct multiple alignment of their amino acid sequences and identify characteristic motifs in their primary structures.

Key words: gold biomineralizaton, metallothioneins, S-layer proteins, bioinformatics.

To estimate the content of nano-sized gold in the mineral raw materials, the use of biosensors based on hybrid microorganisms obtained by genetic engineering methods with high affinity for gold ions is proposed [1]. To create such devices, clear ideas about the molecular mechanisms of the biomineralization of gold by microorganisms are needed [2]. Microorganism proteins play an important role in the sorption of gold nanoparticles by microorganisms and the reduction of its cations to an atomic state, followed by crystallization and the formation of morphological structures.

Objective

To identify and characterize of the proteins of microorganisms involved in the biomineralization of gold using bioinformatics methods. Tasks - analyzing the state, identifying a class of proteins and obtaining information about the primary structures of class members in FASTA format, conducting multiple alignment of their amino acid sequences online on the UniProt server, identifying characteristic motifs in their primary structures. The results of the study:

Materials and methods

We used PubMed database to find publications on proteins involved in the mineralization of gold and UniProt database to get the primary structures of metallothioneins (MT) in FASTA format. Multiple alignment of MT primary structures was made automatically on the UniProt server with option Alignment [5]. Alignment was made separately for taxonomic groups.

Results and discussion

Methods of bioinformatics can work only with individual proteins, whose primary structure is known. Proteoglycans of the cell wall are involved in the sorption of metals by gram-positive bacteria. Identification of primary structures is possible only for one group of these proteins - surface layer proteins (S-layer proteins) [3]. The PubMed database includes 1550 publications, the names of which contain the phrase S Layer Protein. Intracellular transformations of metal cations are performed by cytoplasmic proteins - metallothioneins (MT) [4]. The majority of MTs are low molecular weight proteins (Mm 500–1400 e.a.m.) with a very high (up to 30%) cysteine content and the practical absence of aromatic BMA. At present, the MT study lies mainly in the field of medicine and interest are mainly attracted by human and animal MTs involved in the binding and detoxification of heavy metal cations - Cd\(^{2+}\), Cu\(^{2+}\), Zn\(^{2+}\). MT of microorganisms are described only in separate publications. About the possible participation of MT in the binding of gold ions nothing is known. The wide distribution of MT in nature indicates the diversity of their functions, one of which may be participation in the processes of biominalization of gold. In PubMed database, 4582 publications are identified, including 216 reviews, in which the word MT is in the title of the article. The electronic resources of proteins include the following amounts of primary MT structures: Proteins - 3709, PIR (Protein Information Resource) - 2882, UniProtKB / Swiss-Prot - 1886, including 348 MT of microorganisms and 1638 eukaryotic organisms. 2. Representatives of MT of four taxonomic groups were selected for the study: bacteria (Bacteria), microscopic fungi (Yeast), plants (Plants), algae (Algae). The primary structures of MT in FASTA format were taken in the UniProt database. Multiple alignment of the amino acid sequences of representatives of the metallothioneins of five taxonomic groups selected for the study was performed automatically on the UniProt server using the Clustal (1.2.0) program in the Alignment option. Alignment was carried out separately by taxonomic groups. The highest degree of homology is characteristic for the compared MT bacteria - 26 positions of identical and 13 similar amino acids, the degree of identity of the amino acid sequences is 45.6%. Significantly less homologous are the MT sequence of plants (19 positions of identical and 12 similar AMK, identity of 14.6%), microscopic fungi (7 positions of identical and 6 similar amino acids, identity of 7.3%) and algae (5 positions of identical and 7 similar amino acids, identity 3.3%). The high degree of homology of the compared MT sequences of bacteria should be attributed to the phylogenetic proximity of the compared organisms and the close amount of AMC residues in the chain. Despite the similarity of these parameters in MT of microscopic fungi, the degree of homologues of their sequences is significantly lower. The low homology of the compared representatives of MT plants cannot be explained by differences in the length of the chains, but significant phylogenetic differences can be found in the Swamp oak, Kiwi and Rice species. Representatives of MT algae differed profoundly both phylogenetically, at the level of kingdoms (Chromalveolata and Protista), and the length of polypeptide chains (67-141 amino acid residues). MT of bacteria contained 10-11 cysteine residues and in them, starting from 9-th AMK residue from the NH\({}_2\)-end of the chain, there was a distinct motive: -CxCxxCx (15) CxxxxCx (10) CxxxxxCxC- - where C is cysteine residues, and x is the residues of other amino acids.

Conclusions

1. S-layer proteins and MT are involved in the processes of gold biominalization by microorganisms. Information on the primary structure of these proteins is available in electronic resources.
2. According to the results of multiple alignment of MT of microorganisms the identity degree of amino acid sequences is decreased in the order: MT of bacteria > MT of microscopic fungi > MT of plants > MT of algae.
3. Cysteine is the main amino acid responsible for metals binding by MT. Specific motives of the cysteine distribution in the primary structure of MT were determined.
References


THE INFLUENCE OF SOYA FEEDING ON RATS SEARCHING ACTIVITY WITHIN ONTOGENESIS

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Abstract

The results of study of the effect of prolonged use of the diet rich in soy on the cognitive function of male and female outbred laboratory white rats using the method of quantifying search activity on the background of food deprivation in a hexagonal problem maze show that the intake of soy has no significant effect on the cognitive index of males and females at an early stage of development (up to 6 months), but significantly prevents its reduction to 15 months, mostly in males.

Key words: soya feeding, searching activity, rats.

The results of the study of the effect of soybean products and individual components of soybeans on cognitive function are contradictory [1, 2]. One of the cognitive functions is search activity [3, 4]. The results of the study of the effect of long-term administration of a soy-rich diet on the food deprivation-initiated search activity in male and female outbred laboratory white rats at different age periods are presented.

Objective

To study the effect of prolonged use of the diet rich in soy on the cognitive function of male and female outbred laboratory white rats.

Materials and methods

The study was performed on white outbred laboratory rats (18 males and 24). Rats for the experiment were bred in the vivarium of the Amur State Medical Academy. Methods for keeping animals, feeding and researching search activity as a cognitive index against the background of food deprivation were described earlier [5].

Results and discussion

At the age of 6 months, the cognitive abilities of rats, as assessed by cognitive index, were higher than at 15 months and did not depend on either the sex or the feeding habits of the animals. The mean cognitive index values for groups in rats at 6 months were 87 ± 4% (control males), 91 ± 2% (control females), 89 ± 2% (male experimental), 90 ± 2% (female experimental), not having statistically significant intergroup differences. At the age of 15 months, similar values were 26 ± 5% (control males), 41 ± 5% (control females), 59 ± 7% (male experimental), 52 ± 4 (females
experimental) and were significantly less than six month old animals. The age-related decrease in cognitive index in males up to 26 ± 5% (by 3.3 times, p 0.0003) was more pronounced than in females to 41 ± 5% (by 1.8 times, p 0.0001). Differences in the average values of cognitive index between males and females at the age of 15 months were close to statistically significant (p 0.063). In all groups of rats at 6 months, individual values of cognitive index varied slightly within 71-100% (control males), 83-97% (experiment males), 80-100% (control females), 80-97% (experimental females). At the age of 15 months, individual cognitive index values were sharply reduced and varied more significantly: 15–49% (control males), 36–87% (male experimental), 15–73% (control females), 19–65% (female experimental). The results indicate that taking soy did not affect the cognitive abilities of rats at 6 months, but significantly prevented their decline at 15 months. In general, the results indicate that soy intake had a beneficial effect on the cognitive abilities of rats aged 15 months. The effect of the intake was more pronounced in males. Previously, we obtained similar results obtained using another experimental model with electrical irritation [6].

**Conclusions**

1) Cognitive abilities are more pronounced in young rats than in mature ones.
2) The age-related decrease in cognitive abilities is more pronounced in males.
3) The inclusion of soy in the diet of rats reliably prevents age-related changes in cognitive abilities in males. In females, the differences do not have statistical significance.

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**INFLUENCE OF LOW TEMPERATURES ON THE MORPHOFUNCTIONAL CHARACTERISTICS OF THE TRACHEI MUDICITY SHELL AT THE COMBINED USE OF RHODIOLA ROSEA AND HYPERICUM PERFORATUM**

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**Abstract**

During the 28-day exposure of low temperatures to the epithelial lining of the trachea, followed by the combined use of Rhodiola rosea and Hypericum perforatum wort perforated, the morphological and morphometric characteristics of the epithelium cells of the trachea of white rats were studied. The group of laboratory animals was subjected to cooling for 28 days, 3 hours a day at −15 ° C. It was found that as a result of low temperatures, the height of the epithelium was reduced by 39%, and the height of cilia of ciliated cells by 20% compared with the intact group. The introduction into the body of the combined drug Rhodiola rosea and Hypericum perforatum
enhances the antioxidant effect, protects the cell membrane from destruction and contributes to the restoration of the tracheal epithelium to the characteristics characteristic of the intact group.

**Key words:** tracheal mucosa epithelium, Rhodiola rosea, Hypericum perforatum.

Respiratory diseases account for up to 90% of all infectious diseases. A barrier in the path of pathogens is the mucous membrane of the respiratory tract. It is in it that the primary inflammatory process unfolds most often, and the prerequisites for the further spread of the pathological process are formed [3]. Mucociliary transport is an essential part of the protection of the respiratory tract [1,5]. With the help of cilia located on the apical surface of the ciliated cells, the lumen of the respiratory tract is cleared, resulting in the movement of mucus from the epithelium surface [2,4]. However, in order to identify the causes of ciliary movement patterns and the effectiveness of mucociliary transport in pathology, it is necessary to understand how oxidative stress will affect the tracheal mucosa when exposed to low temperatures and identify the most effective natural antioxidants that prevent the spread of the pathological process.

**Objective**

Morphological study of the tracheal mucosa under the action of cold stress and its correction with combined natural antioxidants.

**Materials and methods**

It was formed 5 experimental groups, each of 10 animals, which were subjected to cold (at - 15 ° C) exposure to 3 hours for 28 days. Groups were created as follows: 1-group control animals; 2-group animal cooling; 3-group exposure to cold and taking Hypericum perforatum and Rhodiola Rosea. The study of the tracheal mucosa was carried out using light microscopy and morphometry on the lens magnification x 100. Statistical data processing was carried out using standard methods of variation statistics, the indicators were considered at p <0.05.

**Results and discussion**

When viewing microscopy, the height of the epithelial layer in intact animals is 42,18 ± 1,06 μm. Ciliated cells of regular cylindrical shape, in the apical parts of the cilia are located. The height of cilia is about 5,4 ± 0,40 μm. Prolonged exposure to low temperatures has a negative effect on the tracheal mucosa. There is a decrease in the height of the epithelial layer in comparison with the intact group, due to the fact that the cells are rounded. Their kernels are also subject to rounding. Therefore, the height of the epithelial layer is reduced compared with the intact group and is 25,78 ± 0,32 μm. The height of the cilia of the ciliary epithelium is reduced, they are deformed and therefore the effect of reducing the cells of the epithelial layer in the trachea is created. The height of the cilia in the epithelium is about 4,36 ± 0,18 μm. The number of ciliated cells is reduced, more goblet cells are formed, which in some areas make up the ratio to the ciliary cells 1: 1. The effect of low temperatures for 28 days on the background of the combined administration of Rhodiola rosea and Hypericum perforatum wort changes the cellular structure of the tracheal epithelium in a positive way. A restoration of the cell composition is observed, in which ciliary cells predominate compared with goblet cells and their ratio is approximately 3:1. The height of the epithelial layer increases and in its performance approaches the intact group and is 39,65 ± 0,44 μm, the cilia of the ciliated epithelium are restored in sizes close to the size of the cilia of intact animals and equal to 5,71 ± 0,45 μm. The nuclei become oval again, concentrating closer to the basal pole of the ciliary cell. The height of the epithelium is reduced and the phenomenon of edema in the connective tissue decreases.

It can be concluded based on the presented materials that the complex use of natural antioxidants Rhodiola rosea and Hypericum perforatum wort have an antioxidant and immunomodulatory and cytoprotective effect, preventing the destructive influence of low and high temperatures on the tracheal epithelium.

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“MORE THAN ALL GUARDED PROTECT YOUR HEART, FOR LIFE COMES FROM IT” - ASPECTS OF MOTIVATION FOR THE FUTURE DOCTOR

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Abstract
Systematization of aspects of the study of the heart at the stages of medical education - the purpose of methodological research. The expansion of educational motivation of students of basic chairs, vertical integration of topical issues with the participation of student clinical audience, the projection on the relevance and the universality of the problems of cardiology, the demographics of the XXI century. Methods: on the basis of information technologies – classic, innovation – the creation of educational projects for students of 1 course within the competencies of the discipline Biology 1-year and 5, 6 courses of the Department of hospital therapy Amur state medical Academy. Introduction into the educational process in the variants of educational and research creative forms (conferences, competitions, publications, presentations, modern control systems).

Key words: aspects of the study of the heart, the relevance of the study of the cardiovascular system, the heart - in ideological, philosophical, Theosophical problems.

Objective
This vital organ unites all those who are interested in the problem of" HEART", makes everyone - from a student to a cardiologist, a cardiac surgeon, an endovascular surgeon - an object of self-study. The group of cardiovascular diseases (CVD) among other nosologies in the XXI century continues to hold the sad palm in the World, in Russia, China, in the Amur region, despite the most advanced diagnostic and therapeutic technologies. This is a large and complex etiological set of nosologies, including multifactorial diseases (polygenic), hereditary diseases (gene, chromosomal, genomic), congenital heart and vascular malformations (CHD), "sports heart", "man-made" diseases.

For students who have a passion for cardiology, an interest in the historical aspect of the study of CVD, including domestic roots, is important. Indeed, it is important for Russian doctors to know the role of the national school of biochemists, morphologists, physiologists, pathophysiologists, cardiologists, the first experimenters - cardiac surgeons who made a great contribution to the study of CVD problems, and be proud that they were often the first! No less important is the information about the modern world schools of cardiologists, cardiac surgeons, about the revolution in the methods of diagnosis, correction, modern methods of rehabilitation of patients, and, of course, about the problems of financial support for complex cardiac patients. Students of the Amur GMA should know that the first cardiac surgery center was opened by the head of the Department of hospital surgery Professor Yaroslav Petrovich Kulik as part of the Annunciation medical Institute in the 60s of the twentieth century.Purpose of research. This vital organ unites all those who are interested in the problem of" HEART", makes everyone - from a
student to a cardiologist, a cardiac surgeon, an endovascular surgeon - an object of self-study. The group of cardiovascular diseases (CVD) among other nosologies in the XXI century continues to hold the sad palm in the World, in Russia, China, in the Amur region, despite the most advanced diagnostic and therapeutic technologies. This is a large and complex etiological set of nosologies, including multifactorial diseases (polygenic), hereditary diseases (gene, chromosomal, genomic), congenital heart and vascular malformations (CHD), "sports heart", "man-made" diseases.

For students who have a passion for cardiology, an interest in the historical aspect of the study of CVD, including domestic roots, is important. Indeed, it is important for Russian doctors to know the role of the national school of biochemists, morphologists, physiologists, pathophysiologists, cardiologists, the first experimenters - cardiac surgeons who made a great contribution to the study of CVD problems, and be proud that they were often the first! No less important is the information about the modern world schools of cardiologists, cardiac surgeons, about the revolution in the methods of diagnosis, correction, modern methods of rehabilitation of patients, and, of course, about the problems of financial support for complex cardiac patients. Students of the Annunciation medical Institute in the 60s of the twentieth century.

Materials and methods
Studying the heart in biology and medicine, it is important to know that this is not only a natural science topic: the unique structure of an important organ of our body (morphology), its evolution (phylogenetics), its unique functional abilities throughout human life (ontogenetics). And not only about cardiovascular pathology, which is studied in cardiology, cardiac surgery, and many other medical disciplines (1). This is a philosophical, philosophical, Theosophical problem. For thousands of years, the heart has had a special aspect of its study – the humanistic aspect. The problem of the heart is a sphere of spiritual life, the image of the heart occupies a worthy place in art, culture, ethics, ethology and psychology with the involvement of the great traditions of human history, giving the opportunity to see in the heart the source of life, inspiration. The word from the Latin: "Homo Cordatus..." means heart, but "a reasonable person".

Discussion. Students should take the Holy message to both young and experienced Aesculapius: "the Power of the doctor is in his heart!"The physician must know that, in supervising the patient, he first of all affects his heart, "...for out of it comes life." The heart carries the secrets of the origins of the power of the human spirit! The desire to close, studying the heart only within the framework of biology and medicine, is doomed to failure, as the researcher will have to distract from the most important thing – the uniqueness of the actual person, his health problems or illness, the undiscovered possibilities of the human body - body and spirit! As it turned out, this problem gathers around itself both materialists and subjective idealists, skeptics and Hegelians, if they turned to the "philosophy of the heart". G. S. Pan in his translation of Plutarch speaks of "the silence of the heart" and "good heart", about heart as "between two worlds". About "heart knowledge" wrote philosophers (4), Ivan Ilyin dedicated a Chapter in "Axioms of religious experience", in the essay "heart contemplation" (3).

Expanding cognitive horizons, the student learns that the problem of the heart affects the most delicate strings of Russian and world philosophical thought. It does not fit only into the problems of philosophical anthropology. Our well-known compatriot P. Y. Chaadayev in the hopes to find common ground between Christian culture and the Indian philosophy through the "sympathetic ability of the human heart" (5). Taoism, developing the concept of a "superphysical heart", speaks of the heart as a" receptacle of the mind" (2). This theme permeates various religions, ranging from paganism: Christianity, Hinduism, Islam, Catholicism and others. Historically, the translations of the Holy fathers - XVI, XVII centuries-set forth the teachings of the gathering of the mind in the heart, the connection of the visible brain with the invisible mind, and the visible heart - with the invisible wisdom. St. Seraphim of Sarov defines its role: "the Heart is the center not only of consciousness but of the unconscious, not only of the soul but of the spirit, not only spirit, but body, not only intelligible, but also incomprehensible; in one word, it is absolute center." The decisive
argument in favor of the symbol of the heart: "the Heart is the center of love, and love is the expression of the deepest essence of personality..."

Summary. Personal imperative for future healers: the heart gives us physical and mental strength, with it we connect the past of our ancestors, the present and the future of our descendants, human civilization as a whole. Therefore, throughout the XXI century, the heart remains a universal subject of discussion. Hoping for understanding, we refer to the words of the world-famous cardiologist and geneticist Victor Mccusick: "... to solve many problems, three things are necessary: education, education and education." For everyone living today, future and present doctors and patients, an urgent recommendation: "Most cherished protect your heart...»

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NEW METHOD FOR EVALUATING COGNITIVE ABILITIES OF LABORATORY ANIMALS

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Abstract

In order to quantify the cognitive abilities of rats, testing in a hexagonal problem chamber with a regularly changing environment was used. Testing consists of six search cycles. The animal freely searches for and chooses the route, solving the problem of finding an unlocked door to exit. A new method for calculating of cognitive indicator is proposed, taking into account the probability of events. Such calculation allows the more objective assessment of the cognitive abilities of the animal.

Key words: behavioral physiology, methods of cognitive abilities research, probabilistic forecasting.

In real life the situation is always beyond stability. The external environment is constantly changing and quite quickly. During solving problems that arise, forecasting and forwarding of the function forward to the future is needed at a time when foresight and the search for the most likely effective ways of satisfying needs are needed.

Objective

The aim of our work is creating a method for an objective assessment of the cognitive abilities of animals.

Materials and methods

We have created a hexagonal problem chamber with a regularly changing structure of the environment, it can translates reactive defensive behavior into active search behavior, which makes it possible to measure cognitive abilities in rats [1, 2]. The testing consists of six search cycles, or 6 rooms of the rat in the chamber, until no errors or errors are made by each test animal 6 exits into the space surrounding the chamber. After leaving the chamber, the used door is locked. The animal freely searches for and chooses the route and direction of each pace and thereby creates for itself the task of sequencing and alternating blocking, i.e. the problem is how not to get on the locked door and find the remaining unlocked doors. The rat must abandon unsuccessful attempts to open the blocked doors and choose a new direction of pace and so on until the last one, which will complete the search cycle. The cognitive abilities of rats are measured by the probability levels of an event, where the measure is from 0 to 1.0 or from 0 to 100% according to theory. The random choice of
the correct solution naturally decreases, and the complexity of solving the problem is constantly increasing due to the fact that the doors used for the exit block. Such testing represents a hierarchy of highly probable events ranging from 100% to unlikely events - 16.6%.

Results and discussion

In our method [3], the probability of a random choice and the level of probability of an event are not constant. In the first search cycle, the probability of an error is 0. In the second cycle, the probability of an error is 1/6 or (16.6%); in the third cycle - 2/6 or (33.3%); in the fourth cycle - 3/6 or (50%); in the fifth - 4/6, or (66.3%); in the sixth - 5/6, or (83.3%). The last sixth cycle completes the testing of the individual, after which it is possible to calculate the average level of the value of the cognitive indicator. Evaluation of cognitive abilities by cognitive indicator (CI) was made by two ways: 1. Calculate the average value without taking into account the probability of a random choice. 2. The calculation of the average value of CI taking into account the probability of a random choice.

The first method of calculating the value of the average CI: the sum of all error-free and erroneous paces is taken as 100%, only 6 times the correct paces and they are taken as x. The sum of all paces with the right and wrong choice of direction is 100%, of which only 6 can be correct. If the CI is below 50%, which indicates the absence of cognitive abilities.

The second way to calculate the average CI. In the first cycle, any pace is effective, the probability is always 100%. In the second cycle, the probability to make a mistake is only 16.6%, in the third 33.3%. In the fourth cycle, the probability of making an error is 50%, and in the fifth cycle, the probability of making an erroneous choice increases to 66.3%. In the sixth cycle, it reaches 83.3%, and testing is terminated, as a desperate situation occurs. The total amount of six error free runs is 600%. The number of erratic runs in a cycle is multiplied by the corresponding cost of the error. We summarize the results of each cycle. The total value is divided by the total number of runs and we get the exact KP. As our studies show, most often errors are made on 5 and 6 cycles with a low probability. The general formula for all CI evaluation options is:

\[ CI = 600\% + N2 \times 16.6\% + N3 \times 33.3\% + N4 \times 50\% + N5 \times 66.3\% + N6 \times 83.3\% \]

where N2, N3, N4, N5, N6 are the number of errors and the number of the corresponding search cycle, 600% - the price of 6 correct runs. The value of the necessary information (awareness) available in the brain of each rat is estimated by changing the likelihood of achieving the goal [18].

Example 1. A rat made 7 runs, in 1-5 cycles of 1 regular pace, in the final sixth 2 paces, erroneous and correct. When calculating the first method CI = 6/7 \times 100\% = 85\%. According to the second method, CI = (600\% + 83.3\%) / 7 = 97.6\%. All methods of calculation indicate a high cognitive abilities of the animal.

Example 2. The rat made 25 runs, making mistakes at some stages of the study, the highest number at the last. The calculation of the first option indicates a low KP, KP = 24\%. According to the second variant, CI = (600 + 1 \times 50\% + 19 \times 83.3\%) / 25 = 89\%. This value indicates a relatively high level of cognitive abilities, which turned out to be above the average when accurately calculated.

Conclusions

CI value of up to 50\% indicates that the choice is random and the search behavior is uncontrollable. KP, exceeding 50\%, indicates a tendency to learn rational search for the right path, marks the beginning of the acquisition of experience and the process of forming a cognitive map. A 100\% CI level completely eliminates the likelihood of a random choice and indicates a high level of cognitive abilities, the presence of rational activity in rats and a finally formed cognitive map. Such an assessment of the probabilistic forecast in the problem chamber corresponds to a subtle measurement of the spatial intelligence of rats. Most researchers of the behavior of rats carry them to the class of intellectually gifted animals, which are mathematically reliably confirmed by these experiments. But the exit from the chamber for the test rat is always ensured in the end (it can be with or without errors), which forms and maintains this acquired search activity in the general
structure of behavior for a long time. Thus, the proposed option allows you to more accurately assess the cognitive abilities of the animal.

References

ANTIOXIDANT STATUS IN PATIENTS WITH TRAUMATIC BRAIN INJURY AND ITS PHARMACOLOGICAL CORRECTION

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Abstract
Studied the antioxidant activity of reamberin in acute neurosurgical pathology: 13 patients with standard therapy received the drug reamberin (Polysan, St.Petersburg, Russia) intravenously 400 ml of the solution for infusion of 1.5% at a rate of 90 drops/min (1-4.5 ml/min) 1 times a day; 10 patients (control group) received only standard therapy. Efficacy was evaluated by the content of lipid hydroperoxides, diene conjugates, malonic dialdehyde and activity of the major components of the antioxidant system (ceruloplasmin, vitamin E) in blood of patients. The inclusion of reamberin in the treatment of patients with acute traumatic brain injury should be considered as pathogenetically justified, clinically justified and promising.

Key words: reamberin, traumatic brain injury, antioxidant status, patients.

Today, the problem of craniocerebral trauma remains relevant, as it affects up to 2% of the population annually. In recent decades, not only the number of craniocerebral injuries has been increasing, but also their more severe course. An urgent task of critical care medicine is the search for effective drugs, contributing to the maintenance of adaptive reactions in the course of traumatic disease and improving outcomes trauma. The action of the multi-component drug reamberin is aimed at eliminating tissue hypoxia, normalization of impaired tissue metabolism, elimination of toxic products, which has been used in various fields of medicine. In our opinion, the possibility of reamberin use in acute neurosurgical pathology is promising, which was the basis for this study.

Objective
Study of antioxidant status in patients with traumatic brain injury and the possibility of pharmacological correction.

Materials and methods
The patients were divided into 2 groups: 10 patients (control group) received only standard therapy; 13 patients with standard therapy received the drug reamberin (Polysan, St.Petersburg, Russia) intravenously 400 ml of the solution for infusion of 1.5% at a rate of 90 drops/min (1-4.5 ml/min) 1 times a day. Efficacy was evaluated by the content of lipid hydroperoxides, diene conjugates, malonic dialdehyde and activity of the major components of the antioxidant system (ceruloplasmin, vitamin E) in blood of patients. The results obtained were subjected to statistical analysis with calculation of parametric criteria Student.

Results and discussion
As a result of the studies, it was found that in the group of patients receiving standard therapy, the content of lipid hydroperoxides at stage II (after treatment) was significantly lower than the similar index at stage I (before treatment) by 8.4% (p<0.05), diene conjugates by 11.4%
THE RESULTS OF THE TREATMENT OF TRAUMATIC INTRACRANIAL HEMATOSE

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Abstract

The results of treatment of patients with brain injury complicated by intracranial hematomas (ICH) are presented in the recent study. The study reflects the dependence of lethality and outcomes on (p<0.01), malonic dialdehyde by 10.6%. In the group of patients treated with standard Reamberin therapy, the level of lipid hydroperoxides was significantly lower by 11.3% (p<0.05) compared to the indicator before treatment, diene conjugates – by 10%, malonic dialdehyde – by 15.8% (p<0.05). The introduction of reamberin patients contributed to a significant decrease in plasma lipid hydroperoxides on 7%, diene conjugates – by 6%, malonic dialdehyde – on 12% compared with patients in the control group. While analyzing the effect of the succinate containin drug on the activity of components of antioxidant system it was found that the levels of ceruloplasmin in the blood was higher than in patients of control group in 16%, vitamin E – 9%.

Thus, the inclusion of reamberin in the treatment of patients with acute traumatic brain injury should be considered as pathogenetically justified, clinically justified and promising.

References

on the severity of concomitant brain contusion, time of admission, severity of quantitative impairment of consciousness, size and location of hematoma and forms of its process.

**Key words:** intracranial hematoma, dislocation syndrome, quantitative impairment of consciousness.

The prognosis and results of treatment for intracranial hematomas depend on many factors: the size and location of the hematoma, the source of bleeding and the pace of brain compression, the severity of the concomitant injuries, the age and burden of the history of the patient, the timing of diagnosis and surgery, the organization and quality of medical care. The purpose of this study is to identify patterns of treatment outcomes for patients with ICH on the extent and timing of diagnosis, surgical treatment and other factors.

**Objective**

The purpose of this study is to identify patterns of treatment outcomes for patients with ICH on the extent and timing of diagnosis, surgical treatment and other factors.

**Materials and methods**

The treatment of 83 patients with ICH treated in the neurosurgical department of the Amur regional hospital was analyzed. The vital functions and patient neurological status were evaluated at the same time. Structural damage to the brain substance and the volume of the ICH were refined using spiral computed tomography.

The patients' age was from 9 months to 87 years old, men ratio was - 79.5%, women - 20.5%. The distribution of hematomas concerning to the membranes and the brain was: subdural - 66 (79.5%), epidural - 15 (18.1%), intracerebral - 2 (2.4%); by the form of the process: acute hematomas - 35 (42.2%), subacute - 20 (24.1%), chronic - 28 (33.7%).

Quantitative disorders of consciousness were observed in 46 people - 55.4%. 23 of them (27.7%) were in a coma, 10 (12%) were in a sopor, 13 (15.7%) were stunning. Nineteen patients had arterial hypertension, in three cases arterial hypotension was recorded. 22 (26.5%) patients had bradycardia, 26 (31.3%) had tachycardia. 9 patients had respiratory disorders — all of them died in the postoperative period. There was a dysfunction of the cranial nerves in 37 patients, and in 45 patients there was pyramidal insufficiency. In 15 cases, the patients had a local headache or was detected by percussion of the skull. In 16 (19.3%) of the ICH combined with single or multiple contusion foci.

**Results and discussion**

Surgical treatment was performed in 80 patients during the first two hours after admission, which amounted to 96.4%. Three patients (3.6%) were treated conservatively. Among those treated conservatively, all patients went to the hospital in a clear mind, without focal neurological symptoms, and after treatment were discharged to work. 80 operations were performed altogether, among them 34 - osteoplastic trepanations, 8 were decompressive, and in 38 hematomas were removed through the cutter holes. The volume of intracranial hematomas ranged from 40 to 250 ml. and averaged 90 ml on a par.

Mortality in ICH was 22.9% - in 19 cases, while in the group of patients operated in a comatose state, the mortality rate reached 72.7%. In 42% of patients, the anesthesia was accompanied by a short-term or persistent drop in arterial pressure. Cerebral or focal neurological disorders remained in 28.9% of discharged patients after treatment for ICH.

One of the leading causes of an unfavorable course of intracranial hematomas is the dislocation syndrome, which is infringement of the midbrain on the edge of the cerebellum. The addition of quantitative impairments of consciousness or their increase in dynamics, along with the neurological symptoms of a brain stem lesion, indicates the development of a stem dislocation. Additional factors aggravating the postoperative course of hematomas are disorders of respiration and cardiac activity, arterial hypotension during the surgical removal of hematomas, and the presence of concurrent contusion foci.

Therefore, the main task of assisting this category of patients is to remove hematomas before the development of dislocal syndrome, which is possible with the timely delivery of patients.
to the neurosurgical clinic and performing the necessary diagnostic algorithm including neuroimaging.

References

CLINICAL MANIFESTATIONS OF MULTIPLE SCLEROSIS OPENING

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Abstract
The features of the monosymptomatic opening of the multiple sclerosis (MS) were analyzed. Along with more typical manifestations, such as visual, sensitive, motor, there are also rare variants of the onset of the disease, which makes it difficult to diagnose it early. A more favorable course of the disease was noted at the beginning with visual and sensory disorders, and an unfavorable one with coordinator and motor disorders.

Key words: multiple sclerosis, the opening, clinically isolated syndrome.

Multiple sclerosis (MS) is an autoimmune, demyelinating disease with multi-focal lesion of the central nervous system and steady progress leading to disability of patients. In recent years, new methods of treatment that allow influencing the course of the disease have appeared. That is why early diagnosis of MS is relevant. According to the literature, about half of cases of MS opening begin with a single isolated symptom, which, makes it difficult to diagnose [1, 2, 3, 4, 5] in the absence of other typical signs of the disease. For such cases, the term “Clinically Isolated Syndrome” (CIS) is currently proposed. The most typical manifestations of CIS are retrobulbar neuritis, transverse mielitis, lesion of the V and VII cranial nerves, coordination disorders, focal motor deficit, sensory disturbances, inter-nuclear ophthalmoplegia, focal or generalized convulsive seizures, isolated pelvic disorders. The factors that increase the likelihood of developing MS with CIS include: multifocality, including the identification of subclinical neurological symptoms (even with negative MRI), asymmetric motor or sensory impairments. The presence of even single foci of demyelination detected on MRI significantly increases the risk of developing MS.

Objective
To study the symptoms of opening in patients with remitting MS (rMS) and their prognostic value.

Materials and methods
The analysis of the opening of 186 patients with rMS of patients from 2000 to 2018.

Results and discussion
Monosymptomatic MS opening was observed in 61.8% of cases, and more often this opening was observed with an earlier onset of the disease.

A greater percentage of monosymptomatic opening cases were visual disturbances, they were noted in 23.6% of cases. Usually this is retrobulbar neuritis, repeated in 3 patients. Sensitive and motor symptoms were observed in the same percentage of cases - 15.1%. Moreover, in 4 patients, sensitive disorders were accompanied by pain of varying intensity. Movement disorders were manifested by transient central mono-, hemi-, less often lower paraparesis, which usually developed subacutely, less often gradually. One patient had an acute development of hemiparesis with impaired speech.
The opening with stem disorders was detected in 13.6% of patients. Of these, oculomotor disturbances (7%) were more often observed with a primary lesion of the abducent nerve, less often inter-nuclear ophthalmoplegia. Dizziness is noted in 5.4% of cases, sometimes with slow regression and with a tendency to recur. Cerebellar disorders in the form of shakiness when walking were observed in 4.3% of patients. Isolated pelvic disorders are one of the most rare symptoms of debut, retrospectively identified in 5 patients (2.7%).

In our observations there are cases of atypical opening of the MS. So, in one case, there was opening with a hearing loss. In 3 women, MS opened with asthenic disorders - general weakness, headache, non-systemic dizziness, sleep disorders, autonomic disorders. Two patients in the opening of MS had epileptic seizures. Also in 2 cases - transient speech disorders and hand tremor. The involvement of the peripheral nervous system was manifested by the neuropathy of the facial nerve, in one case - trigeminal neuralgia and peroneal nerve neuropathy.

The rMS proceeds relatively favorably in Amur region with the opening of visual and sensitive disorders. In these patients, a slower progression of the disease, a long first remission and a late transition to a secondary progression is found - after 12.4 ± 6.8 years with visual opening and 19.5 ± 15.6 years with sensitive (p 2 , 6 <0.01). At the opening of the disease with paresis and, especially, with coordinated disorders, the disease proceeds less favorably, before secondary progression and disability of patients occurs.

Conclusions
Thus, all the above options for the debut of the MS deserve serious attention and detailed study in each case with the objectification of the patient's complaints with the help of additional research methods, and observation in dynamics. The awareness of doctors about various options for the opening of MS, including rare ones, allows to suspect the disease at an early stage and to conduct an appropriate examination to clarify the diagnosis and initiate adequate therapy.

References

THE POSSIBILITY OF CAUSING MULTIPLE GUNSHOT WOUNDS DURING SUICIDE

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Abstract
Examination of multiple gunshot injuries is difficult and includes the solution of a number of issues, such as: a) Multiple gunshot injuries resulted from one or several shots, didn’t they? b) If there were a few shots then what were their distance and sequence? c) Which of the gunshot injuries is fatal? d) Determination of the type of weapon. e) Assistance to investigating authorities in the formation of a version of murder, suicide and accident.

Key words: forensic medicine, gunshot injury, suicides, differential diagnostics/

Objective
To conduct a forensic medical evaluation of multiple gunshot wounds.
Materials and methods

Inspection of the corpse and the search for specific material evidence are of great importance when inspecting the scene of a gunshot injury. The position and posture of the corpse is carefully fixed, determining the presence or absence of weapons, ammunition, cartridges, bullets, shot, wads. All this is recorded with an exact indication of the distance and location of the detected material evidence in relation to the corpse and its parts. Soot, traces of blood, particles of tissues and organs can be found on the guns, especially the bore. Puddles and drips of blood, drops and their location, the direction and shape of the spray on the surrounding objects are specified. The position of the corpse with features of drips of blood is compared. Clothes is being examined in detail where there is the presence or absence of blood mark and the direction of its drips, which helps in establishing the position of the body at the time of injury. The presence of entrance and exit gunshot holes (wounds) on clothes and a corpse is stated. The orientation of the wound channel is approximately determined taking into account the localization of the entrance and exit gunshot wounds and the location of the bullet, if it is detected. Only a complete examination of the corpse can determine the orientation of the wound canal in blind and multiple gunshot wounds.

Results and discussion

Based on Rosstat data and their calculations, we present selective statistics on the structure of death from external causes of death of men and women for 1960, 1990 and 2012. Men: accidents – 26.0% (1960), 15.6% (1990), 16.9% (2012); murder - 6.1% (1960), 10.5% (1990), 7.8% (2012); suicide 18.5% (1960); 19.9% (1990); 16.3% (2012). Women: accidents – 27.2% (1960), 16.3% (1990), 19.3% (2012); murder - 6.9% (1960), 11.2% (1990), 8.4% (2012); suicide 19.6% (1960); 19.2% (1990); 12.2% (2012). Thus, accidents and suicides far exceed murders. Differential diagnosis of causes of death is a responsible task for a forensic expert. There is given a case study, showing opportunity of causing multiple gunshot wounds during suicide. From the materials of the criminal case it is known: the corpse of a citizen F., was found by his wife in locked flat 30 minutes later. The corpse was lying on the floor, face down, in puddle of blood at the time of inspection by the police. The corpse lay parallel to the next stan ding sofa. A five-shot semi-automatic rifle (MP 153) lay under the corpse at the level of the shin. Blood spatter, small defects in the plaster and wallpaper, characteristic of the effects of shot found on the wall behind the sofa. Small fragments of muscle tissue were found also. Wounds in the chest area on the left, on its left lateral surface, the inner surface of the left shoulder, on the anterior abdominal wall and in the projection of the left femoral triangle were found. Two shooting sleeves of this weapon (12 caliber) were found near the corpse. The wife of the dead man claims that at the time of her leaving he was alive. He abused alcohol and was deeply depressed a week ago. Later, it became known that citizen F. was put on record for HIV infection. The forensic examination of citizen F.'s corpse revealed the following: a shotgun shot tangent wound to the chest and left shoulder with an entrance wound on its front surface in the left chest area and an exit wound on its left side surface and a tangent gunshot wound on the front inner and rear surface left shoulder, with damage to the fibers of the left pectoral major muscle, the walls of the left lateral thoracic arteries and veins, fractures of the 4,5,6,7 ribs of the left half of the chest and bruised left lung tissue, crush injury of the neurovascular bundle of the left shoulder (brachial arteries and veins, median nerve), fibers of the short head of the biceps muscle, long, medial heads of the triceps muscle.

Gunshot shot wound of the abdomen, pelvis and left thigh with entrance gunshot wounds on the anterior abdominal wall in the left iliac region (according to the type of tangent wound) and in the left inguinal fold and left femoral triangle; through damage to the fibers of the left rectus abdominis muscle, the parietal peritoneum of the anterior abdominal wall and the walls of the jejunum; crushing of the neurovascular bundle of the left thigh (left femoral artery, vein and nerve), tailor's fibers, short and long adductor muscles of the thigh, left iliac muscle; fragmentary comminuted fracture of the anterior third of the wing and the crest of the pelvic bone. At the time of suicide, citizen F. sat on the sofa edge, leaning forward. At the first shot, his left hand held the barrel of the gun, pressing its muzzle to the left half of the chest. At the same time, the shoulder of the left hand was pressed along the body or slightly moved to the side and backwards.
from it. The weapon itself was anterior and to the right of the victim, resting the butt on the floor of the room.

After the first shot, the victim's body has not yet had time to significantly change its position (sitting tilted to the front), given the short time interval between the first and second shots. However, the left hand had already released the barrel of the weapon, which moved downward and the muzzle was partially clamped between the anterior abdominal wall and the anterior surface of the left thigh, at that time a second shot occurred (most likely a spontaneous shot). Therefore, the second gunshot wound consists of two wounds with wound channels: first wound - in the abdomen (by the type of tangential injury - due to a shot at an acute angle (tilt of the body anteriorly and the specified position of the muzzle of the weapon) with splitting off from the main multi-element projectile of the petal container from three pellets that penetrated into the abdominal cavity); second wound - in the area of the left hip and pelvis due to the bent hip joint (the position of the injured sitting).

This case is interesting because several gunshot wounds with multidirectional wound channels were formed by the victim in the process of suicide. Each of these gunshot wounds, individually, is fatal, accompanied by intense blood loss and symptoms of traumatic shock. All this mislead the investigation into error and forced it to consider murder version. However, a detailed analysis of the crime scene and the nature of the weapon, witness’s testimonies and the features of injuries established during the forensic examination of the corpse allowed to build the correct investigative version confirming the fact of suicide.

References

INTERESTING CASE OF PSORIATIC ARTHRITIS IN A CHILD WITH A NINE MONTHS

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Abstract
Psoriatic arthritis (PsA) is a chronic inflammatory disease of the joints and spine, which develops in about one third of patients with psoriasis and leads to destruction of the articular surfaces, various options for bone resorption, ankylosing of the joints, sacroiliitis, and numerous systemic manifestations. According to the 1998 classification, Durban PsA in children refers to juvenile idiopathic arthritis. In children, PsA is relatively rare. Its frequency in the structure of juvenile arthritis is 4–9%. Juvenile PsA is 2 times more common in girls. The peak incidence occurs at puberty.

Key words: psoriasis, psoriatic arthritis.

Objective
To study and analyze the increase in the incidence of psoriasis in people from 0 to 18 years. To evaluate the effectiveness of prescribing therapy for the treatment of severe forms of psoriasis and psoriatic arthritis in children.

Materials and methods
Case histories of patients of the skin department of the budget institution of health care of AOKVD JSC.

Results and discussion
According to the results of a sample with a diagnosis of psoriasis, GBOZ AOKVD JSC underwent inpatient treatment in 2016, 16 children (11 girls (69%), 5 boys (31%)), in 2017 - 38 (20 girls (53%), 18 boys (47%)), in 2018 - 64 (24 girls (39%), 39 boys (61%)). The number of children suffering from psoriasis increases every year: in 2016, 16 children were treated; in 2017, 2.4 times more than in 2016 - 38; in 2018 compared with the previous year, it is more by 1.66 times, compared to 2016, almost 4 times more - 63. School-aged children are more often ill: children with this diagnosis between the ages of 0 and 7 were 4 (25%), from 8 to 18 years old - 12 (75%) in 2016; in 2017 - from 0 to 7 years was 2 (5%), from 8 to 18 years old - 36 (95%); in 2018, from 0 to 7 years was 7 (11%), from 8 to 18 years old - 56 (89%). Over the entire period of sampling of children from 0 to 7 years, 13 cases of treatment in the hospital, which accounted for 11% of all treated children, from 8 to 18 years - 104 cases - 89%

One of the manifestations of psoriasis is psoriatic arthritis, rarely found in children and difficult to treat. The case described in this paper is not typical. The child has been sick since the age of 9 months, when arthritis of the left knee after the vaccination of DTP developed, with rapid progression and involvement of both knee, ankle and radiocarpal joints in the process. Skin rash first appeared at the age of 3 years. On the background of intensive therapy, severe skin damage, progression of the articular syndrome, psoriatic deformity of the nails, the presence of markers of an unfavorable course of the disease (early debut age, functional insufficiency) persist for many years. The disease has a hereditary nature (father has psoriasis).

At the place of residence, juvenile arthritis was diagnosed, therapy with methotrexate was prescribed in May 2008 in the age dose, NSAIDs, with minimal positive effect. Since August 2008, therapy with remicade has begun. Due effect is not achieved. In June 2009, a second basic drug, Leflunamide 10 mg, was connected to the therapy, however, arthritis and high laboratory activity remained. In August 2009, therapy with the genetically engineered biological drug infliximab was started at a dose of 100 mg according to the standard scheme, with the development of secondary inefficiency in the 3rd year of treatment. In March 2011, they were examined in the NCDD, where, given the continuing high disease activity, the therapy was corrected: leflunamide and infliximab were canceled, in addition to methotrexate, the second genetic engineering biologic drug TNF inhibitor second-line adalimumab was administered at a high dose of 40 mg 1 biweekly for a year, followed by a weekly introduction. During therapy, a positive effect was initially noted. In November 2014, after suffering ARVI and temporary discontinuation of therapy, exacerbation, resumption of therapy with adalimumab, increasing the dose of methotrexate, GK, NSAIDs, with minimal positive effect. In 2016, from May to September, I did not receive adalimumab therapy due to a temporary move to Sochi. In September 2016 a significant deterioration, could not stand on the right foot. In October, at the place of residence, the therapy with a 40 mg / week humidor was resumed, with no effect. Throughout the course of the disease, persistent exudative psoriasis persists. At the time of the first hospitalization, severe skin damage remained, progression of the articular syndrome, which was the rationale for prescribing a genetic engineering biological product from the 3rd line TNF-alpha inhibitor class, etanercept, at a dose of 0.8 mg / kg 1 time per week. In June 2017, inpatient treatment at the Research Institute of Rheumatology, Moscow. Recommended basic therapy: metipred 4 mg / day, methotrexate 15 mg / week table., Or 12.5 mg / week n / a, biological therapy enbrel 10 mg 2 times a week n/a or 20 mg 1 p week. Further, the treatment was received at the place of residence, the dynamics against the background of the correction was stably positive, while trying to reduce the dose, there was a worsening of the condition, and therefore, since December 2017, the patient has been taking 4 mg to date. Deterioration in mid-January 2019, when recurrent synovitis and skin syndrome. From 01/02/2019 to 08/02/2019 She was on planned treatment in AODKB. Discharged in connection with the accession of ARVI. Treatment of SARS at the place of residence.

Conclusion

Considering the data of the skin department of the Amur Region for three years, there has been a pronounced progression of the development of psoriasis in childhood, an increase in severe forms with torpidity to therapy. As an example, a case of psoriatic arthritis from 9 months in a girl
from the Amur region is given. The article was published to draw attention to this problem, to clarify the use of doses and schemes of gene engineering therapy for children, to prevent the ineffectiveness of therapy and disability of patients.

References

THE PROTECTIVE EFFECT OF NATURAL ANTIOXIDANTS UNDER TEMPERATURE STRESS

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Abstract
In the experimental conditions investigated the possibility of increasing the resistance of rats to physical influence in the conditions of use of adaptogenic products (Hypericum perforatum and Rhodiola rosea) in cold and heat stress.

Key words: heat and cold stress, resistance of organism, antioxidants.

The most significant national priorities which represent the basis of innovative development of the country are rapid socio-economic development of the Arctic territory and construction and operation of the first Russian civil cosmodrome «Vostochny» in the cold Winter of the Amur region [1,2,3,4].

Objective
The aim of the present work was to investigate the possibility of using the natural antioxidants for the protective effect of the organism under temperature stress.

Materials and methods
The animals were divided into 9 groups, each of them had 10 rats: 1-intact animals which were held in standard conditions of vivarium; 2 -the control group in which rats were exposed to cold during three hours daily (-15⁰ C, 50% humidity); 3- the control group in which rats were exposed to heat during 45 minutes daily (+40⁰ C, 50% humidity); 4,6,8 - the experimental groups in which before cooling animals had a daily intake of adaptogens (Hypericum perforatum and Rhodiola rosea) in a dose of 30 mg/kg, 150 mg/kg, 300 mg/kg respectively; 5,7,9 - the experimental groups in which rats before putting them in the heat climatically were a daily intake of adaptogens (Hypericum perforatum and Rhodiola rosea) in a dose of 30 mg/kg, 150 mg/kg, 300 mg/kg respectively.

Results and discussion
It was found out that cold and heat exposure reduces the resistance of experimental animals (in different degrees) to swim all the days of the experiment. The introduction of adaptogens in animal feed in a dose of 150-300 mg/kg, which were exposed to temperature effects, increased swimming time up to 178±4,7 (min) and 181±3,0 (min), herewith time of intact rats was 146±3,4 (min); control group which were put to cold exposure 108±5,6 (min), and heat 105±3,4 (min) (p<0.01). On the 14th day the average duration of swimming of rats, which used the studied compound at a dose of 150-300 mg/kg, was 192±3,0 (min) and 188±5,9 (min). A similar trend is observed until the 28th day of observation.

Thus, the use of natural antioxidants of Hypericum perforatum and Rhodiola rosea in conditions of prolonged heat and cold stress on the organism of experimental animals leads to significant increase in the resistance of rats to fatigue.
THE INFLUENCE OF DRINKING WATER ON THE FORMATION OF UROLITHIASIS AMONG THE POPULATION OF THE AMUR REGION

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Abstract
It is known that urolithiasis is a very common metabolic disease, which generally tends to grow steadily.

Key words: water pollution, complex of water environment factors, urolithiasis.

According to the statistical data of the Ministry of Health of the Russian Federation of the Department for Monitoring, Analysis and Strategic Development of Health of the Central Research Institute for the Organization and Informatization of Health, morbidity in the Russian Federation urolithiasis in the year 2017 - 883223 people were registered (the incidence with the first established diagnosis of urolithiasis is 601.6 per 100 thousand of the population), whereas in 2006 there were 191731 such patients (the incidence is 134.3 per 100 thousand. population). In the Far Eastern Federal District, the incidence rate in 2017 was 638.7, with the highest value reached in the Amur Region - 979.1 per 100 thousand population, which is 62.7% higher than the national average.

Objective of this study was to identify potentially harmful factors, assess the relationship between the studied factor and the development of urolithiasis.

In the process of research the following tasks will be implemented:
1. To give a hygienic assessment of the complex of factors of the aquatic environment of the Amur Region, traditionally considered to be potential risk factors for the occurrence of diseases of the urinogenital system in humans;
2. To establish the ecological and epidemiological component of the formation of the primary morbidity of the urinogenital system of the adult population in the Amur Region;
3. Identify the leading exogenous risk factors that form the long-term increase in the primary incidence of urolithiasis in the Amur region;

Materials and methods
The work will use a set of social and hygienic methods:
- assessment of the quality of drinking water samples is carried out in accordance with the requirements of current regulatory documents;
- assessment of the spread of diseases according to the circulation of the population according to the official form of statistical reporting № 12 (ICD-10) for the period 2007-2018;
- complex of methods of statistical analysis: paired and multidimensional correlation analysis according to Pearson and Spearman. Statistical processing of the research results will be carried out using Microsoft Office Excel 2007 and Statistica 6.0 for Windows application packages.

Results and discussion

The chemical composition of the natural waters of the Amur Region is primarily formed under the influence of natural factors characteristic of the Far Eastern region: physiographic and hydrological conditions, geochemical natural background leads to the fact that the water contains an increased concentration of iron and manganese.

According to the results of the study of water samples in the framework of socio-hygienic monitoring, indicators of color, turbidity and iron content do not meet sanitary standards. In 2018, according to the materials for the state report «On the state of sanitary and epidemiological well-being of the population in the Russian Federation in 2018» in the Amur Region, excess of iron over 5 MPC in the water sources of drinking water supply was found in the city of Svobodny. The excess of iron content in the range from 2.1 to 5 MHC was detected in the territories of the districts (descending according to the rank position): Svobodensky, Belogorsky, October. According to the Institute of Geology and Nature Management of the Far Eastern Branch of the Russian Academy of Sciences, beryllium was found in 53.3% of samples, but only slightly exceeds the background and MPC values (0.0002) only in individual Mikhailovsky wells (Shumilovka village), Bureysky (v. Assumptionka, Vinogradovka), Konstantinovsky (v. Verkhneolotavka), Blagoveshchensky (its. Volkovo, Egorevka) districts. Selenium was found in 60% of samples with a MPC value of 0.01 mg/l, its maximum concentrations reaching 0.018 mg/l and characteristic of drinking waters of the Mikhailovsky and Bureisky districts. In the Blagoveshchensk, Tambovsky, Mikhailovsky, and Ivanovsky districts, aluminum was found in 97% of the samples. With a maximum allowable concentration of 0.2 mg/l, its maximum concentrations (up to 0.7 mg/l) were detected in 8 samples (v. Solnechnoye, Vinniko, Shumilovka, Astrakhanovka, Markovo, Novoaleksandrovka, Sergeyevka). The content of fluorine in all areas ranges from 0.01 to 0.12 mg/l, in Blagoveshchensky it increases to 0.5 mg/l, in Arkharinsky districts (Sagibovo village) - up to 15 mg/l. Due to the fact that the groundwater of the Amur Region is classified as poorly mineralized, the majority of the population consumes poor-quality drinking water due to its ionic composition, which in turn leads to the spread of metabolic diseases, general increased morbidity and stomatological problems.

Further studies of the relationship between the studied factors and the development of urolithiasis among the population of the Amur Region will be carried out taking into account a comprehensive assessment of the chemical composition of the drinking water of settlements

References:


POSSIBILITY OF CORRECTION OF OXIDATIVE STRESS CONTAINING DRUGS

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Abstract
The search and development of methods for correction of oxidative stress in conditions of exposure to adverse environmental factors is a topical problem of modern medicine. In experimental conditions the possibility to correct free radical lipid oxidation of rats’ organism membranes was studied with the introduction of the succinic acid and of the succinate containing drug called reamberin. The application of the succinate containing antioxidants in the conditions of ultraviolet radiation of the organism of animals under experiment leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

Key words: succinic acid, reamberin, oxidative stress, ultraviolet radiation, rats.

It is known that succinic acid is used in medicine to prevent the state of reduced immunological reactivity, to increase resistance to stress, since succinate has a positive effect on the oxygenation of the internal environment, stabilizes the structure and functional activity of mitochondria, is an inducer of the synthesis of some proteins, affects the ion exchange in the cell. In this regard, the development of combined preparations based on succinic acid and their approbation in the clinic opens up prospects for expanding the evidence base of the effectiveness of succinate-containing drugs in various pathological conditions.

Objective
To study the comparative efficiency of succinic acid and reamberin in oxidative stress in the experiment.

Materials and methods
The animals were divided into 4 groups and each of them had 20 rats: the group with intact animals which were held in standard conditions of vivarium; the control group in which rats were exposed to ultraviolet radiation during three minutes daily; the experimental group in which before ultraviolet radiation animals had a daily intraabdominal intake of the succinic acid in a dose of 100 mg/kg; the experimental group in which before ultraviolet radiation animals had a daily intraabdominal intake of the reamberin in a dose of 100 mg/kg (20 ml/kg).

Results and discussion
It was found out that in the blood of experimental animals a daily ultraviolet radiation during three minutes contributes to the increase of lipid hydroperoxides level (by 48 – 53%), of diene conjugate (by 43 – 48%), and of malonic dialdehyde (by 48 – 61%) against the decrease of antioxidant system activity in the blood of intact animals. The introduction of the succinic acid to rats contributes to the reliable decrease in the blood of lipid hydroperoxides by 15-16%, of diene conjugates – by 9-16%, and of malonic dialdehyde by 15% in comparison with the rats of the control group. The introduction of the succinate containing drug called reamberin to rats in the conditions of oxidative stress contributes to the reliable decrease in the blood of lipid hydroperoxides by 27-28%, of diene conjugates – by 23-28%, and of malonic dialdehyde by 26-29% in comparison with the rats of the control group. While analyzing the effect of the succinate containing drugs on the activity of the components of antioxidant system it was shown that the level of ceruloplasmin in the blood of animals was reliably higher by 25-32%, of vitamin E by 28-33% in comparison with the same parameters of the rats of the control group.

Thus, the application of the succinate containing antioxidants in the conditions of ultraviolet radiation of the organism of animals under experiment leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

References
MEDICAL EXPERIMENT IN THE CONTEXT OF MORALITY AND LAW

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Abstract

Modern experimental medicine along with the development of innovative methods of treatment contains many risks to human health. The publication deals with international and domestic moral and legal documents that ensure the rights of the individual during experiments in medicine.

Key words: medical experiment, human rights, moral and legal declarations and conventions.

Objective

In medical science there is a stable, and completely objective, idea that any discovery is preceded by an experiment on animals and humans, and the result is verified by practice. This work aims, based on international and domestic documents, to reveal the mechanism of moral and legal protection of subjects from abuse in experimental activities.

Already in ancient times among doctors and philosophers discussed the question: is it permissible to experiment on humans and animals. The ancient Roman physician Cicero believed that if animals are subjected to suffering during the tests, such experiments are unacceptable. In the middle ages, Andreas Vesalius, the results of studies on corpses, confirmed the data of experiments
on animals. One of the founders of experimental medicine K. Bernard raised the question of ethical boundaries of medical tests on humans. He concluded that science should respect the main value - human life. In the early twentieth century, A. Mol in the fundamental work "Medical ethics" noted that before conducting medical experiments on a person, the doctor must obtain the patient's consent to the test. At the same time the Russian doctor V. V. Veresaev in "Notes of the doctor" raises a question of ethics of clinical experiments. He writes: "the Question is extremely complex, difficult and confusing, arising from the very essence of medical science, so closely related to man - the question of permissibility of medical experience in humans...". Veresaev sharply condemns the experiments on the infection of healthy people with syphilis, motivated by the fact that the disease of individuals is produced for the benefit of science and humanity [1].

At the present stage, the problem of medical experiments has found a social, moral and legal solution. It is especially laid bare in the practice of the doctors of the Third Reich to conduct inhuman experiments on the prisoners. Under the guise of serving science, they killed more than 275 thousand people from 33 countries. The experiments of Nazi doctors at the Nuremberg trials were qualified as crimes against humanity.

The final document regulating moral and legal aspects of medical tests on people-the Nuremberg code (1947) was adopted. Of paramount importance when conducting a medical experiment is attached to the receipt of voluntary consent. The document emphasizes that the subject has the opportunity to freely Express his will, to make an informed decision, not to be subjected to any forms of violence. When making a decision, the subject must have complete information about the nature, duration and purpose of the experiment, know about the means and methods of the test, as well as possible risks to his health. The requirements of the Nuremberg code, on the one hand, are aimed at ensuring the protection of the subject. Human trials must first be verified by the results of experiments on animals, not to cause the object of the research of physical damage and mental suffering, to eliminate the risks brought to his disability or death. On the other hand, in order to minimize mistakes, experiments should be carried out by highly qualified specialists and high moral qualities [4].

The protective principles of medical experiments were further developed in the Helsinki Declaration of the world medical Association (1964). The amendments to the document adopted by the 29th Assembly of the world Association of physicians (Tokyo, 1975, Italy, 1983) and the 41st world medical Assembly (Hong Kong, 1989) are evidence that the document is under the control of the international medical community. The Helsinki Declaration States that medical progress is impossible without research where the subject is human. Experimental manipulation must meet ethical standards based on respect for the rights of the individual, protecting health and human rights. The main objective of medical research with human participation as an object is to improve preventive, diagnostic and therapeutic procedures. The health of a particular person is a priority over the interests of science and society [5].

Advances in biology and medicine, based on the use of innovative techniques, in addition to positive results, have created new risks to human health. People have concerns about possible abuses, especially in such areas as transplantation, medical genetics, etc. there Is a need to update the moral and legal framework, including in the field of experimentation. In 1997, Oviedo adopted a comprehensive international instrument, the Convention on human rights and Biomedicine. A separate article provides for the protection of persons acting as test subjects. All subjects must be informed of their rights and guarantees of protection under the law. The risk to which the subject is exposed shall not exceed the potential benefit. The well-being of the subject should prevail over the interests of the state [3].

International instruments form the basis of national legislation. So, the Constitution of the Russian Federation includes article 21 in which it is written: "Nobody can be without voluntary consent subjected to medical, scientific or other tests". Normative provisions of the Constitution of the Russian Federation are reflected in Federal laws, in particular, the Law of the Russian Federation "On protection of health of citizens of the Russian Federation" [2].
THE INFLUENCE OF ANTI-INFLAMMATORY THERAPY ON THE LONG-TERM PROGNOSIS IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASES WITH LOW RISK CATEGORY

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Abstract
The article is devoted to studying the effect of anti-inflammatory therapy with roflumilast on a long-term prognosis for chronic obstructive pulmonary disease (COPD) of low risk. It was shown that prolonged (at least 12 months) use of roflumilast as part of basic therapy, as compared with standard therapy, leads to a more pronounced decrease in the frequency of exacerbations per year of treatment (p<0.01) and the risk of exacerbations (RR=0.52[0.30–0.90], p<0.05), as well as an increase in the number of persons without episodes of exacerbation of COPD (χ² = 4.45; p <0.05).

Key words: chronic obstructive pulmonary disease (COPD), exacerbations, prognosis, roflumilast, treatment.

Chronic obstructive pulmonary disease (COPD) is a steadily progressive disease that is accompanied by a chronic inflammatory process and is characterized by the appearance of exacerbations and extrapulmonary effects [1]. The 35% of deaths from respiratory diseases in an economically active age are due to COPD in 2016. The economic damage to health care from COPD in the Russian Federation during this time amounted to 18.8% of the total costs of respiratory diseases, while direct costs of inpatient care prevail in the treatment of the disease [3]. Most often patients are hospitalized for exacerbations that require the exaltation of medical care [2], therefore, it is important to search for drugs for patients with COPD that help slow the progression of the disease by reducing the frequency and risk of exacerbations [4,5]. In this context, the selective inhibitor of phosphodiesterase-4 (PDE-4) roflumilast deserves special attention.

Objective
To study the long-term prognosis of the disease in low-risk COPD patients against the background of standard and combination therapy with roflumilast.

Materials and methods
The 45 patients with COPD of low risk of exacerbations were involved, mostly men (93.3%). The average age of the patients was 57.12±1.1 years, the duration of the disease was 10.81±0.75 years, the smoker's index (SI) was 33.7±2.40 pack/year. Depending on the amount of treatment received, patients were divided into 2 equivalent groups: the 1st (n= 23) group were
patients receiving the basic treatment regimen (GOLD, 2017), in the 2nd group (n= 21) patients were additionally prescribed roflumilast 500 mcg daily. The observation period was 12 months. Statistical analysis of the data was performed using the Statistica 10.0 application licensed package. The significance of differences was taken at p<0.05.

Results and discussion

The initial frequency of exacerbations for the previous year (FEY) in groups 1 and 2 was comparable and amounted to 1.13[0.98-1.28] and 1.10[0.81-1.19] times/year. On the background of the treatment carried out, FEY significantly decreased in both groups. So in the 1st group the changes were 20.9% (p<0.01), in the 2nd group 48.6% (p<0.001). At the same time, in the 2nd group, the reduction in the FEY was more pronounced than in the 1st group (p<0.01). It is interesting to note that 15 (33.3%) patients with low-risk COPD had no exacerbations during the 12 months of treatment, among which patients of the 2nd group prevailed ($\chi^2 = 4.45$, p<0.05).

For the mathematical expression of the effectiveness of anti-inflammatory therapy, we calculated relative indicators of the effect of treatment. It was revealed that in the 1st group of patients the attributable risk of exacerbations was 0.78, while in the 2nd group it was 0.41. It was also found that the use of roflumilast reduces the relative risk of exacerbations by 48% (RR= 0.52[0.30-0.90], p<0.05) and decreases the chances of detecting an exacerbation (OR= 0.19 [0.05-0.71], p<0.05). At the same time, in order to prevent exacerbation of a low-risk patient with COPD, it is necessary to conduct a course of anti-inflammatory therapy with roflumilast for 12 months to 2.7 patients.

Thus, the data obtained on the positive effect of roflumilast as part of the basic treatment of COPD of low exacerbation risk on the long-term prognosis of patients expands the understanding of the possibilities of using anti-inflammatory therapy in patients of this category.

References


THE EFFECTIVENESS OF PLANT ADAPTOGENS UNDER COLD STRESS IN THE EXPERIMENT

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Abstract

The purpose of this research was to study the possibility of using a mixture of phytoadapto gens for the correction of the body's compensatory responses to the conditions of low temperatures. Experiments have been conducted on experimental animals (50 white mongrel rats-males weighing 180-200 g) in accordance with generally accepted methodological approaches.
Research of cold adaptation reactions of experimental animals have been conducted by using the model of a long cold action with appropriate climatic chamber. It was established experimentally that in doses of 150-300 mg/kg daily of the studied mixture has a strong antioxidant effect in the conditions of cold stress on warm-blooded organism. The research allow to use a mixture of phytoadaptogens as a regulator of adaptive reactions of the organism when exposed to low temperatures.

**Key words:** cold effect, resistance of organism, phytoadaptogens.

The actual problem of studying environmental impacts on warm-blooded body is considered to be the stress effect of cold.

These tactical and strategic directions are realized in cold climatic conditions of environment that causes relevance of a problem of adaptation of the population of the Russian Federation to temperature stress. In this regard, it is interest to study the mechanisms of adaptation reactions of the warm-blooded organism to low temperatures, because the depletion of reserves of organs and systems is possible until the adaptation is achieved [1,3,4].

The development of the state of disadaptation in cold stress is possible to prevent by system of hygienic measures, correction of diets of the population with the use of adaptogenic products from animal or plant origin [2,3].

A promising component for the production of a mixture of substances used in the nutrition of the warm-blooded organism during exposure to low temperatures an important role can be assigned to Hypericum perforatum (HP) and Rhodiola rosea (RR) [1,2].

**Objective** of the present work was to investigate the possibility of using the mixture of HP and RR for the correction of compensatory reactions of the organism to low temperatures.

**Materials and methods**

The work was performed under standard conditions of vivarium of Amur State Medical Academy. Experiments were carried out observing the rules of the “European Convention for the protection of vertebrate animals used for experimental and other scientific purposes” (Strasburg, 1986) and the order of the RF Health Ministry №267 concerning the GLP rules (19.06.2003). Experiments on the study of cold adaptive reactions of laboratory animals with the introduction of a mixture of HP and RR using a model of long-term cold exposure were performed on 50 white rats-males weighing 180-200 g for 10 individuals in the group.

The study of cold adaptation reactions of animals was carried out on the model of long-term cold exposure for 28 days with the introduction of a mixture of HP and RR. The animals were divided into 5 groups: 1st – intact rats were kept in standard vivarium conditions; 2nd – control group, animals were subjected to cooling; 3rd, 4th, 5th groups – the experimental groups, before placing the rats in climatic chamber in a small amount of feed added a mixture of HP and RR in powder form in the dose of 30 mg/kg; 150 mg/kg; 300 mg/kg respectively. The study of biochemical parameters was carried out on the 7th, 14th, 21st, 28th days of cold exposure.

After the experiment, the animals were decapitated under ether narcosis. The study was approved by the Ethics Committee of the Amur State Medical Academy. The statistical processing was carried out by the standard method with the use of the Student’s t-criterion.

**Results and discussion**

The effect of cold affects the increase in lipid peroxidation products (LPP) in the blood of rats. The results of experimental studies have shown that the prolonged action of cold on the warm-blooded organism observed an increase in the content of all products of peroxide reactions on the 7th, 14th, 21st and 28th days. It was found that the introduction of a mixture of HP and RR in doses of 150 mg/kg and 300 mg/kg significantly reduced the content of the LPP in all research periods. Significant changes in the content of the LPP under the introduction of phytoadaptogenic mixture at a dose of 30 mg / kg have not been registered.

Most of all, the content of hydroperoxides of lipids during cold exposure decreased on the 14th day under the introduction of a mixture of HP and RR at a dose of 300 mg / kg and amounted to 19.93±0.92 nmol/ml; the concentration of diene conjugates is maximally reduced on the 28th day under the introduction of the mixture at a dose of 150 and 300 mg / kg; the
content of malonic dialdehyde decreased in all days of research, especially on the 21st day of the experiment.

Thus, feeding an experimental animals the mixture of HP and RR during prolonged cold stress leaded to decrease in the formation of LPP in the blood of rats, that's why an increase in the level of adaptive reactions were leads.

We have first experimentally confirmed and substantiated the effectiveness of phytoadapto gens mixture of HP and RR with the purpose of correction of oxidative stress under conditions of cold stress on warm-blooded organism. The experiments allow to recommend the studied mixture as a regulator of adaptive reactions of the organism under the influence of low temperatures.

**References:**

**THE TREATMENT EFFICACY AND DETERMINATION OF THE LEVEL OF NITRIC OXIDE IN THE EXHALED AIR IN WOMEN WITH BRONCHIAL ASTHMA DURING PREGNANCY**

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**Abstract**
The effect of pregnancy on bronchial asthma (BA) is still a contentious issue and varies widely: an improvement is reported in 18-69% of women, worsening is in 22-48.6% of women, in 27-43% of cases there was no effect of pregnancy on BA. Despite the fact that the questions of diagnostics and treatment of BA during gestation are detailed in the constantly updated manuals, the management of pregnant women with asthma is a difficult complex task for physicians of various specialties. Similarly, the dynamics of the course of asthma is affected by adherence to therapy during gestation. Adherence to therapy of patients with BA in general and pregnant women in particular, leaves much to be desired. First of all, we are talking about the use of inhaled glucocorticosteroids (IGCS). According to the latest data, a significant proportion of pregnant women suffering from BA refuse of intake or reduce the dose of IGCS.

**Key words:** bronchial asthma, inhaled glucocorticosteroids, β2 - agonists, treatment, pregnancy

**Objective**
To study the effectiveness of treatment of women with bronchial asthma during pregnancy.

**Materials and methods**
In our study, 100 pregnant women, patients with BA, were treated according to the recommendations of GINA (2016), based on the level of disease control. Of these, 20 patients with controlled BA in the gestation period did not need basic therapy, using only short-acting β2-agonists
symptomatically. Despite the uncontrolled and partially controlled course of the disease and the presence of exacerbations, 29 patients refused of basic therapy because of low adherence and their own prejudices about the adverse effects of hormonal drugs on the fetus. Baseline therapy (inhaled glucocorticosteroids (IGCS), systemic glucocorticosteroids) in the gestation period was received by 51 patients (51%). At the same time 45 patients (88.23%) - IGCS (budesonide, beclomethasone dipropionate, Symbicort Turbuhaler). 4 women with uncontrolled and 2 ones with partially-controlled asthma during exacerbations were given courses of systemic glucocorticosteroids (prednisolone), from the immediate-care drugs there were prescribed β2-agonists of short and long-acting with the preferred introduction through the nebulizer, respiratory gymnastics and mucolytic drugs were prescribed also. The effectiveness of the treatment was studied with the help of the asthma control test (ACT) and determination of the level of nitric oxide in the exhaled air (NOex).

Results and discussion
When assessing AST, it was found that patients with moderate uncontrolled BA who took basic therapy during pregnancy were able to achieve control and it was noted improvement in the dynamics of the disease in the absence of exacerbations during the gestation period, amounting up to 20.5% of all pregnant women who noted improvement and 25% of pregnant women with uncontrolled BA (p <0.05). Similarly, in pregnant women with moderate and severe BA, with a constant intake of IGCS, there was a significant decrease in the level of nitric oxide, therefore, they had fewer exacerbations of asthma and achievement of control of asthma. An inverse correlation was established between the content of the NOex level and the baseline therapy in the first trimester (r = -0.45, p = 0.00002); in the 2nd trimester (r = -0.56; p = 0.00001); in the 3rd trimester (r = -0.48, p = 0.0001).

Conclusion
The obtained data characterize the effectiveness of basic therapy at any term of pregnancy, which contributes to a smaller number of exacerbations of asthma, in comparison with the refusal of treatment. To assess the effectiveness of basic anti-inflammatory therapy in patients with BA during pregnancy with the possibility of timely prevention of exacerbations of the disease, monitoring of the level of nitric oxide in the exhaled air is recommended.

References:

MORPHOFUNCTIONAL CHARACTERISTICS OF THE SKIN OF THE LIMBS OF EXPERIMENTAL RATS OF DIFFERENT AGE GROUPS IN THE PRE-REACTIVE PERIOD OF FROSTBITE

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Abstract
Local cooling is one of the most common environmental impacts that people periodically experience while living in the northern regions of Siberia and the Far East. The need to study the effects of cold on a living organism is dictated by the development of a man of the Arctic, Antarctic and other territories characterized by "hard" living conditions.

Key words: skin, epidermis, dermis, cold, antioxidants
Under the action of low temperatures, signs of an inflammatory reaction appear in the connective tissue. Destructive processes develop against the background of tissue temperature recovery [1]. Free radicals that accumulate in the cells in the form of oxygen singlets to toxic concentrations lead to secondary damage to cell membrane structures. Lipid peroxidation (POL) of cell membranes is one of the types of the normal metabolic process and proceeds continuously with low efficiency in all tissues of the body [2].

**Objective**

The object of our study was the material of the skin of the rat paws, which was subjected to local contact frostbite of one of the hind limbs using a cotton swab moistened with liquid nitrogen at a temperature of -196 °C with adequate humidity and ventilation conditions. The cooling was carried out for 1.5 minutes, as the liquid nitrogen evaporated, the tampon was moistened again. Immediately after local cooling in the pre-reactive frostbite, laboratory animals were clogged, the material of the paw skin was taken for histological examination.

**Materials and methods**

Working methods were - Experimental - cold exposure (local cooling of limbs), histological - fence material (makromikroskopick preparation) fixation, stain: hematoxylin-eosin staining, light microscopy sections and analysis - Morphometry stereological analysis statistical processing of the data.

**Results and discussion**

In the group of immature rats (not receiving pharmacological correction), subjected to local cooling and derived from the experiment immediately after the cold exposure - the following morphological changes are observed in the pre-reactive cold injury period: those. observed phenomena paranecrosis. The dye stains the cells of the epidermis diffusely, the protoplasm of epithelial cells vacuolized. On the part of the vessels of the papillary layer of the dermis, the phenomena of stasis are observed, a persistent spasm of the vessels of the dermis is observed, which speaks of phenomena of cold stress. Erythrocytes are glued together in "coin columns" and clog the capillaries, the occlusion of the microcirculatory system is visible.

In the group of mature rats, in the prereactive period, the boundaries between the layers and the cells of the epidermis are slightly insignificant, the nuclei of the cells are not changed. The stratum corneum is somewhat thickened. On the part of the dermis, a vasospasm is seen, which indicates the phenomenon of cold stress, thickened collagen fibers are visible. Red blood cells glued diffusely, visible occlusion of the microcirculatory system.

Thus, the effect of cold on the skin is more pronounced in the group of immature animals.

**References:**


**POSTNASAL DRIP IN CHILDREN**

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**Abstract**

Postnasal drip (PND) in children occurs when excess mucus runs down the back of the throat. Glands in the lining of the nose produce mucus to trap viruses and bacteria and protect the body. This mucus typically runs out the nose or down the back of the throat and often goes unnoticed. When large amounts of excess mucus run down the back of the throat it is referred to as postnasal drip. Postnasal drip in children can be caused by a number of factors. The most common
include: allergies (allergic post nasal drip), middle ear infections (otitis media), sinus infection (sinusitis), cold or flu, foreign body obstruction (children).

**Key words:** Postnasal drip, amounts of excess mucus, cough, sinusitis children

Post-nasal drip (PND) can be a bothersome symptom and one of the main reasons for patients visiting a general practitioner (GP), pulmonologist or ear, nose and throat (ENT) surgeon. It can be either a symptom, sometimes not appreciated by the examining practitioner, or an important clinical sign suggesting rhinosinusitis.

**Objective**

This article aims to explain the aetiological factors and initial work-up of the patient with a PND and rhinosinusitis and suggest a treatment paradigm for practitioners.

**Materials and methods**

A correct diagnosis requires a detailed ear, nose, and throat exam, and possibly laboratory, nasal endoscopy, which can provides a detailed examination of the nasal cavity, sinuses, and voice box, and x-ray studies.

Patients suffering from a chronic cough often first present to a pulmonologist. A chronic cough is defined as one that persists for more than eight weeks. Ninety per cent of patients with chronic cough suffer from either laryngopharyngeal reflux (LPR), bronchial asthma or postnasal drip syndrome (PNDS).

Rhinosinusitis is a condition that can be clinically diagnosed by using a group of symptoms. It does not require special investigations such as computed tomography or endoscopy. Medication should be directed at the cause of the PND rather than treating the symptom itself. It has been shown that rhinosinusitis with PND is frequently over-diagnosed as being the underlying cause for a chronic cough. In a recent study it was demonstrated that only a small proportion of patients with purulent rhinosinusitis with no co-morbid lung pathology suffer from chronic cough. When considering causative factors, the following diagnosis should be considered: allergic, infectious and non-allergic non-infective rhinitis. The differential diagnosis should include nasal polyps, mechanical obstruction, tumours, granulomatous conditions and cerebrospinal fluid leaks.

It is important to determine whether the patient has any symptoms suggesting rhinitis and, if present, whether this is allergic or non-allergic in nature. Rhinitis is present when the patient has two or more of the following symptoms: blockage, rhinorrhoea, itchiness and sneezing. Allergic rhinitis is diagnosed when these symptoms are due to an immunoglobulin E (IgE)-mediated inflammatory response secondary to allergen exposure. Patients with persistent (perennial) allergic rhinitis can have chronic inflammatory changes that can be misdiagnosed as chronic rhinosinusitis (CRS). The mainstay of treatment for allergic rhinitis remains topical corticosteroids and oral antihistamines. Fluticasone and mometasone have the lowest bioavailability of all the topical corticosteroids, but there is no difference in the efficacy when compared to the other topical corticosteroids. Ipratropium bromide is an atropine-like nasal spray that can be used in patients with watery rhinorrhea where topical corticosteroids are not effective. Allergen avoidance is important and immunotherapy is an option for selected patients with severe symptoms who fail treatment with the above measures. Immunotherapy is especially effective in patients with seasonal allergies who are allergic to a few allergens only.

Non-allergic rhinitis is present if the patient suffers from two or more of the abovementioned symptoms but without an allergic aetiology. Studies show that patients are likely to have nasal disease if they suffer from more than five sneezes or nose blowing episodes a day. A recent study in tin Blagoveshchensk showed that 34% of patients with rhinitis have a combination of allergic and non-allergic rhinitis.

Treatment varies according to the following causes: Bacterial infections are treated with antibiotics. These drugs may only provide temporary relief. In cases of chronic sinusitis, surgery to open the blocked sinuses may be required. Allergies are managed by avoiding the causes. Antihistamines and decongestants, cromolyn and steroid nasal sprays, and other forms of steroids may offer relief. Immunotherapy, either by shots or sublingual (under the tongue drops) may also be helpful. However, some older, sedating antihistamines may dry and thicken post-nasal secretions.
even more; newer nonsedating antihistamines do not have this effect. Decongestants can aggravate high blood pressure, heart, and thyroid disease. Steroid sprays may be used safely under medical supervision. General measures that allow mucus secretions to pass more easily may be recommended when it is not possible to determine the cause. Many people, especially older persons, need more fluids to thin out secretions. Drinking more water, eliminating caffeine, and avoiding diuretics (medications that increase urination) will help. Nasal irrigations may alleviate thickened secretions. Finally, use of simple saline nonprescription nasal sprays to moisten the nose is often very beneficial.

A careful history should be obtained in patients complaining of a PND or ‘sinusitis’. Allergic rhinitis should first be treated, causes of nonallergic rhinitis looked for and irritants avoided, rhinosinusitis diagnosed and correctly classified and managed. If a PND persists, especially with associated nasal symptoms, patients should be referred to an ear, nose and throat (ENT) surgeon for endoscopy. CT scans are only performed to assess the response to treatment, to exclude the presence of complications in ABRS and to plan endoscopic sinus surgery.

References

MORPHOLOGICAL FEATURES OF THE BLOODSTREAM OF THE UMBILICAL CORD IN PRERGNANT WOMEN WITH RESPIRATORY MIXT – VIRAL INFECTION

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Abstract
There were investigated morphological indicators in 27 umbilical cords of the placentas women with respiratory mixt – viral infection. Control – 30 umbilical cords of the placentas from women with physiological course of pregnancy. It is established that morphological changes concerned quantitative and qualitative indicators and were characterized by dystrophic and necrobiotic changes of vascular walls, disorganization of loose connective tissue in perivascular space, nonspecific inflammatory changes.

Key words: umbilical, bloodstream, mixt – viral infection.

Morphology of the placenta is a reflection of the functional state of the child in the perinatal period and the prospects for the development of its organs and systems in the first year of life. Multifaceted research in recent decades has led to substantial progress in understanding the morphogenesis of patterns of functioning and of the relationship of amniotic structures as with the body of the mother and the fetus. There was an idea of the system of "mother-placenta-fetus", the study of which was the basis of perinatal medicine (1,4), stated the formation of a large and complex field of medicine – practical placentology (2).

Morphological features of changes in the structure of the umbilical cord as a pharmacological organ, which is an integral part of the fetoplacental circulation and provides vital activity of the fetus throughout pregnancy, are the cause of serious pathological processes in the fetus (3).
Scientific research in the field of physiology and pathology of the umbilical cord is quite extensive, but mainly aimed at elucidating abnormalities, features of inflammatory reactions in infectious diseases. However, the peculiarities of umbilical cord and placenta development in general, associated with the multifactorial development of pathology and heterogeneity of development, remain out of sight (5).

**Objective**
To identification of the structural features of the umbilical cord bloodstream in pregnant women with respiratory mixed viral infection.

**Material and methods**
In our work we used a combination of organometric, histological and morphometric methods. There were material 27 of the umbilical cords of the placentas of women with intrauterine respiratory mixt-viral infection. The control was a 30 umbilical cords of the placentas from women with physiological course of pregnancy. The morphological study was carried out according to the standard method of formalin fixation, alcohol wiring and paraffin filling with the production of sections of 6-8 microns thick and their staining with hematoxylin and eosin, then a comparative statistical analysis was carried out. Simple parameters were determined - the mass and length of the umbilical cord, the histometric method was used to determine the proportion of the amniotic epithelium, Wharton jelly and the main structural components of the vein and artery (wall thickness, endothelium, lumen), and the calculated index - the total stromal-vascular coefficient. Histological techniques included additional histochemical stains for assessment of biochemical properties of Wharton’s jelly - colouring altianalis blue and pas-reaction for the detection of acidic and basic of glycosaminoglycans.

**Results and discussions**
In the control group in the umbilical ropes there was a usual plan of structure, generally accepted simple indicators - the mass and length of the umbilical cord did not differ significantly in pregnant women of 1 and 2 groups. These indicators are very variable and not informative in assessing the state of the umbilical cord blood flow (3). Qualitative indicators are more informative and in the group of women with respiratory mixed viral infection there was a thickening of the umbilical cord wall, swelling and loosening of the gelatinous substance, the lumen of the veins was narrowed compared to the control. It might have to do with a transferred phlebitis. In umbilical cord vessels edema, fibrosis and dystrophic changes of smooth muscle cells were observed in all cases. In 70 % of cases of mixed viral infection, umbilical cord blood vessels were full, in the lumen of which a small number of segmental white blood cells were found among erythrocytes. Diapedetic periarterial hemorrhages were detected in the surrounding vessels of loose connective tissue. Structural changes in the wall of the vein were expressed in the thickening of the muscular membrane, and in some areas it was comparable in thickness with the thickness of the muscular membrane of the artery. In some cases, there was a sharp ectasia of the lumen and thinning of the muscular membrane of the wall with the wall stasis of red blood cells. In addition, there was a decrease in the proportion of amniotic epithelium, an increase in stromal-vascular coefficient. Nonspecific inflammatory changes in the form of infiltration of the muscular membrane of blood vessels by segmental leukocytes with admixture of lymphocytes were observed in the umbilical cord of women with mixed viral infection, which characterized the development of vasculitis. In perivascular loose connective tissue neutrophils also appeared, which was combined with edema and disorganization of structures.

Mixed viral respiratory infection in pregnant women leads to pronounced morphological changes in quantitative and qualitative indicators and is characterized by dystrophic and necrobiotic changes in the walls of blood vessels, disorganization of loose connective tissue in the perivascular space, nonspecific inflammatory changes. Pathology of the umbilical cord causes disturbance of hemocirculation in a single biological system mother-placenta-fetus, causing or exacerbating fetoplacental insufficiency.
References:

FETAL DISTRESS. MODERN TREATMENT METHODS

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Abstract
Major risk factors of fetal distress during pregnancy period and delivery are exposed. The effectiveness of operative delivery methods is evaluated.
Key words: fetal distress, fetal hypoxia, operative delivery
Fetal distress includes all disruptions of its functional state. However, intrapartum hypoxia takes the lead in the structure of perinatal morbidity and mortality. In this connection, improvement of the fetus state evaluation, prediction of its functional state disruption, and selection of a proper delivery method is the priority for obstetrician-gynaecologists.

Objective
The research aims to identify the fetal distress risk factors and evaluate the effectiveness of operative delivery methods.

Materials and methods
A retrospective analysis of 40 delivery reports with a diagnosed fetal distress was conducted. Group I included 20 women with cesarean delivery. Group II included 20 women with vaginal vacuum extraction delivery.

In evaluating the somatic status, it was identified that every third pregnant woman had deviation from normal body mass index: 8 women (20%) were diagnosed with obesity and 6 (15%) were underweight. Every second woman had chronic nicotine intoxication: 4 women (20%) in Group I and 6 (30%) in Group II. Chronic persistent viral infections were diagnosed in 15 pregnant women (75%) in Group I and 8 women (40%) in Group II. Urogenital infectious diseases occurred in 2 cases (10%) in Group I and 9 cases (45%) in Group II. Every third woman in both groups – 5 (25%) in Group I and 7 (35%) in Group II – had cardiovascular diseases.

Women of both groups were having an abnormal pregnancy from the first trimester. Most often diagnosed complications were: threatened miscarriage – 2 women (10%) in Group I and 3 (15%) in Group II; acerotic anemia – 2 women (10%) in Group I and 6 (30%) in Group II.

In the second trimester, acute respiratory diseases caused complications in 13 pregnancies (65%) of Group I and 3 (15%) of Group II. Gestational diabetes was diagnosed in 4 cases (20%) in Group I and in 2 cases (10%) in Group II.

In the third trimester, most women had clinical manifestations of chronic placental insufficiency: 10 women (50%) in Group I and 14 (70%) in Group II. Moderate preeclampsia occurred only in 2 cases (10%) in Group I, 8 women (40%) in Group II had gestosis.

Ultrasound marker of fetal distress in each group was chorion previa identified in 10 cases (50%). Placenta previa was diagnosed in 6 cases (30%) of Group I.
Hyperechoic focus in myocardium and hyperechoic intestine of fetus occurred in both groups with equal frequency: 7 cases each (35%). In the third trimester, umbilical cord pathology occurred in 8 women (40%) of Group II.

All the women in Group II and 18 women (90%) in Group I delivered at term, 2 women (10%) in Group I had premature delivery.

Premature rupture of membrane occurred in 12 cases (60%) of Group I and 5 (25%) of Group II. Meconium coloring of amniotic fluid was diagnosed in 6 cases (30%) of Group I and in 3 (15%) of Group II. 15 women of both groups (38%) had anomaly of labor activity.

Umbilical cord pathology occurred in 27 cases (67.5%): absolutely short cord – 3 cases (7.5%), tight cord entanglement – 20 cases (50%), true cord knot – 2 cases (5%), and cord attachment – 2 cases (5%).

34 (85%) of neonates were born in a satisfactory state of health, 5 (12.5%) were in moderate asphyxia and 1 premature neonate (2.5%) from Group I was in heavy asphyxia. Cephalhematoma occurred in 6 cases (30%) of Group II. Signs of hypotrophy were identified in 7 cases (17.5%) of both groups.

12 neonates of both groups were transferred to the second stage of therapy.

Conclusion
The most significant risk factors of fetal distress during pregnancy were chronic nicotine intoxication, chronic infectious diseases, and abnormal pregnancy.

The most important ultrasound markers of fetal distress proved to be chorion previa, umbilical cord pathology, hyperechoic focus in myocardium and hyperechoic intestine of the fetus.

The most significant markers of fetal distress during labor were premature rupture of membrane, anomaly of labor activity, cord pathology and meconium coloring of amniotic fluid.

Modern operative delivery methods improve perinatal outcomes. However, the applying of vacuum extraction in labor contributes to natal injury cases.

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NON-PHARMACOLOGICAL CORRECTION OF ENDOTHELIAL DYSFUNCTION AND ARTERIAL STIFFNESS IN THE ACUTE PERIOD OF STROKE

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Abstract
The study included 108 patients admitted to the primary vascular center of Blagoveshchensk. The main group consisted of 70 patients, whose standard therapy was optimized using various methods of reflexotherapy. The control group consisted of 38 people who received only basic therapy. After the course of early rehabilitation (2 weeks) in the group of patients receiving reflexotherapy, the mean CAVI values significantly improved (by 11%, \( p = 0.02 \)), while in the control group they remained approximately at the same level. In general, improvement in arterial stiffness in the main group was obtained in 82.5% of cases, whereas in the control group -
only in 48% of cases (p = 0.042). The main group also showed a significant decrease in endothelin-1 by 46% (p < 0.05), while in the control group - only 21% (p > 0.05). The total neurologic deficit on the NIHSS scale in the main group decreased on average by 3.91 points (62%), while in the control group it was 2.39 points (39%). Consequently, the early appointment of reflexotherapy significantly reduces the severity of arterial stiffness and endothelial dysfunction, contributing to the successful rehabilitation of patients.

Key words: acute period of stroke, endothelial dysfunction, arterial stiffness, endothelin-1, reflexotherapy

The steady aging of the population is accompanied by aging processes of blood vessels. Changes that occur in the vessels with age are important risk factors for cardiovascular disease. By now, more evidence has been obtained that aging-related endothelial dysfunction (ED) and increased rigidity of the vessels create a metabolically and enzymatically active agency that promotes the onset or progression of vascular disease [2]. The gold standard for assessing arterial stiffness (AS) and biological age (BA) of vessels is the non-invasive method of volumetric sphygmonography on the Vasera VS-1000 (Fukuda Denshi, Japan), which is used for calculate a cardiovascular risk indices: CAVI (cardio-ankle vascular index) - the index of vessel stiffness, ABI (ankle-brachial index) - the index of stenosis / occlusion, vascular age. However, there are only a few works about the value of the elastic properties of the arteries in patients with manifest cardiovascular disease [3] have shown that a decrease in arterial stiffness is a significant predictor of good prognosis [1]. ED can be defined as an imbalance between the relaxing (NO) and constrictive (endothelin-1) factors, which may be one of the links in the pathogenesis of ischemic stroke.

Objective

The aim of the study was to study ED and AS in patients in the acute period of ischemic stroke (IS) and the possibilities of correction of these parameters by reflexotherapy.

Materials and methods

The study included 108 patients with acute ischemic stroke held a course of early rehabilitation of the primary vascular center of Blagoveshchensk. The average age of the patients was 63.3 ± 2.2 years (range 43 to 78 years). The main group consisted of 70 patients with the standard therapy has been optimized using the methods of reflexotherapy (RT). The control group consisted of 38 people who received only standard treatment. The groups were comparable by gender, age, severity of the neurological deficit and pathogenetic variants of the stroke. In both groups, women predominated (60% in the primary and 58% in the control group).

Evaluation of neurological deficits was complemented with NIHSS scale, which amounted 6.32 ± 0.45 points in the main group and 6.19 ± 0.81 score - in the control group.

Arterial stiffness was studied in dynamics (on 3rd-5th day hospital stay and after 2 weeks) in 40 patients of the main group and 25 patients of the control group. Calculation of the CAVI index was carried out automatically on the basis of registration of plethysmograms of 4 limbs, an electrocardiogram, a phonocardiogram, using a special algorithm for calculations. Endothelial dysfunction was studied in 30 patients of the main and 13 patients of the control group by examining the level of endothelin-1 in plasma of venous blood with an enzyme immunoassay using the Biomedica (Austria) production kit before and after treatment (14 days later). The recipe for reflexotherapy procedures was compiled individually, depending on the neurological deficit, and was supplemented by puncturing the points of the general-purpose action and points with spasmyolytic and psychotropic effects. Procedures were conducted daily, the course consisted of 10 procedures.

Results and discussion

At the time of the start of the reflexotherapy course, CAVI values in the groups did not differ significantly and on the average were 9.66 ± 0.32 in the main group and 9.28 ± 0.27 in the control. In 66.1% of cases (43 patients) CAVI was above 9.0. After the course of early rehabilitation in the main group of patients, the mean CAVI values significantly improved (by 11%) and amounted to 8.63 ± 0.24 (p = 0.02), while in the control group there were approximately at the same level - 9.46
± 0.34 (p = 0.685). In general, improvement in arterial stiffness in the main group was obtained in 82.5% of cases (in 33 patients), whereas in the control group - only 48% of cases (in 12 patients) (p = 0.042). At the beginning of therapy, a significant increase in endothelin-1 in both groups (0.96 ± 0.25 fmol / ml in the main group and 0.97 ± 0.21 fmol / ml in the control group) was detected. After 2 weeks a significant decrease in endothelin-1 level was observed in the patients of the main group - by 46% (to 0.52 ± 0.13 fmol / ml) (p <0.05). The control group also showed a tendency to decrease endothelin-1, but less pronounced than in the first group (by 21%, up to 0.77 ± 0.15 fmol / ml) (p> 0.05). The main group showed a faster regression of neurological symptoms - the total neurologic deficit decreased by an average of 3.91 points (62%), while in the control group it was 2.39 points (39%).

Thus, the combination of pharmacotherapeutic treatment with the early appointment of reflexotherapy significantly reduces the severity of endothelial dysfunction and arterial stiffness and contributes to the successful rehabilitation of patients.

References

THE EFFECTIVENESS OF REFLEXOTHERAPY IN POST-STROKE COGNITIVE DISTURBANCES TREATMENT IN THE ACUTE PERIOD OF THE CEREBRAL STROKE

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Abstract
In order to study the effectiveness of reflexotherapy for the correction of post-stroke cognitive impairment and the level of motivation of patients, a survey and an early rehabilitation course of 50 patients in the acute stage of ischemic stroke were carried out. In the main group (30 patients who had the basic unified complex of rehabilitation measures optimized by the inclusion of various methods of reflexotherapy), on the 15th day from the start of therapy, the indicators of cognitive functioning on both scales showed positive dynamics (3.1 points for MMSE and 3.2 points for according to the MoCA test, p <0.001) and there was a significant increase in the level of motivation (an average of 2.1 points, p <0.001). In the control group (where 20 patients received conventional treatment without reflexotherapy) cognitive improvements were less noticeable (p> 0.05), no significant change in the level of motivation has occurred (p> 0.05). Indicators on the NIHSS scale in the main group significantly improved compared to baseline (by an average of 3.88 points, P <0.001), whereas in the control group the regression of the neurological deficit was less noticeable (by an average of 1.85 points, P<0,05). Thus, the inclusion of reflexotherapy methods during the early rehabilitation of post-stroke patients is accompanied by reliable positive dynamics of cognitive functions, and also increases the level of motivation of patients, which is especially important for rehabilitation activities, as it promotes more rapid regression of focal neurological symptoms.

Key words: post-stroke cognitive impairment (PSCI), motivation, acute period of ischemic stroke, reflexotherapy
The causes of disability after a stroke are not only motor and sensory disorders, and communication difficulties due to speech disorders, but also cognitive impairments, reaching the severity of dementia [1]. Patients with PSCI are more likely to experience depression and emotional lability, a pronounced decrease in motivation for any activity, as well as relative pharmacological resistance, which have a negative effect on the rehabilitation process [2]. In order to reduce the pharmacological load and increase the effectiveness of treatment, it is possible to use reflexotherapy methods that help improve blood circulation in the brain, normalize blood pressure, have an anxiolytic and antidepressant effect, and help to correct focal neurological symptoms [3].

Objective
The purpose of this study was to examine the clinical effectiveness of reflexotherapy in rehabilitation schemes for patients in the acute stage of ischemic stroke, aiming to correct PSCI and increase the level of patient motivation.

Materials and methods
A survey and early rehabilitation course were conducted among 50 patients in the acute period of ischemic stroke, between the ages of 40 and 74 years, located in the primary vascular center of Blagoveshchensk. Cognitive impairments were identified by collecting anamnesis, clinical examination, consultation with a psychiatrist, a psychologist and confirmed by the results obtained during testing using the MMSE and MoCA tests for each patient. The level of motivation among the patients was identified by using the questionnaire test “Motivation for Success and Motivation for Fear of Failure”. Clinical assessment of the neurological status was supplemented with a score of the neurological deficit according to the NIHSS scale. Two groups were formed from the total number of patients randomly. They were comparable by gender, age, and severity of neurological symptoms. The main group consisted of 30 (60%) patients who had the basic unified complex of rehabilitation measures optimized by the inclusion of various methods of reflexotherapy. The control group consisted of 20 (40%) patients who received conventional treatment.

Results and discussion
At the time of initial examination, the average values of indicators for the scales in the main and control groups did not differ significantly (23.6 ± 0.43 MMSE scale and 22.1 ± 0.9 on the MoCA test in the main group, and 23.4 ± 0.6 and 22.9 ± 0.24, respectively, in the control group). Among 7 patients (14%), cognitive impairments were not detected (28 - 30 points on the MMSE scale), 26 (52%) had mild cognitive disorders (24 - 27 points); 16 (32%) - mild dementia (20–23 points); 1 patient (2%) had dementia of moderate severity (11 - 19 points).

On the 15th day, cognitive functioning indicators for the main group revealed a significant positive trend on both scales (by 3.1 points for MMSE and 3.2 points for MoCA test, p <0.001). Second group of patients had less noticeable cognitive improvements, the average score on the MMSE and MoCA scales improved insignificantly (by 0.5 and 0.7 points, respectively, p> 0.05). Motivational pole in both groups of patients was not clearly expressed and was not significantly different (12.8 ± 0.27 and 12.5 ± 0.39, respectively). However, comparison of treatment among patients of the main group showed that the level of motivation increased significantly (on average by 2.1 points, p <0.001), and the patients were already more focused on success. In the control group, there was no significant change in the level of motivation (an increase of 1 point on average, p> 0.05).

Indicators on the NIHSS scale in the group of patients who received reflexotherapy improved significantly compared to baseline (by an average of 3.88 points, p <0.001), whereas in the control group the regression of the neurological deficit was less noticeable (by an average of 1.85 points, P <0.05).

Thus, the inclusion of reflexotherapy methods in the early rehabilitation of post-stroke patients is accompanied by reliable positive dynamics of cognitive functions, and also has a beneficial effect on increasing the level of motivation, which is especially important for rehabilitation activities, because promotes more rapid regression of focal neurological symptoms.

References
REGENERATIVE ACTIVITY OF THE EPITELIUM OF TRAHEA IN THE APPLICATION OF DIHYDROQUERCETIN ON THE BACKGROUND OF THE SPECIAL COOLING OF ANIMALS OF VARIOUS AGE GROUPS

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Abstract
To assess the regenerative potential of the epithelium of the tracheal mucosa, a morphological marker - an alkaline phosphomonoesterase - was used, whose reaction intensity reflects the functional activity of the basal (stem) cells. In the general cooling of the body, the lowest reaction was observed in the group of animals aged 19-20 months (old). In rats of this group, the number, area and size of the core of the basal cells decreased. The use of dihydroquercetin on the background of general cooling led to a moderate increase in the response to alkaline phosphomonoesterase in old animals, the morphometric parameters of the basal cells increased slightly compared with animals 6-7 months.

Key words: tracheal epithelium, basal cells, alkaline phosphomonoesterase, general cooling, dihydroquercetin.

At present, it has been practically proven that stem cells are universal “spare” parts that are used by the body to repair various tissues. However, many aspects of the cytophysiology of stem cells, as well as their use for the regeneration of tissue structures, are far from being resolved [2]. They can be detected using special methods, as specific proteins are synthesized in native stem cells and derivatives. Some of them can be detected using the morphological marker - alkaline phosphomonoesterase. Recent studies have shown that one of the pools of progenitor cells of the airways is a basal (poorly differentiated) cell, in which adult rats account for up to 90-95% of all mitoses [4, 5]. It is known that in the elderly and senile due to a decrease in the proliferative abilities of stem cells and changes in the epithelium of the chromatal relationship, especially against the background of the influence of extreme factors, the direction of differentiation changes.

Objective
The aim of the work was to assess the regenerative activity of the epithelium of the trachea with a general cooling of the body and use for the correction of dihydroquercetin in animals of different age groups.

Materials and methods
The experiment used rats aged 6-7 months (young) and 19-20 months (old). Modeling of the influence of low temperatures was carried out in the climate chamber “ILKA” (Feutron) at a temperature of -15 for 3 hours daily for 14 days. Evaluation of the action of dihydroquercetin (a natural antioxidant obtained from Siberian larch) was carried out by oral administration of the drug at the rate of 5 mg per 100 grams of weight for 14 days prior to cooling, then the animals were subjected to general cooling (according to the above scheme), continuing the introduction of the drug during cold an experiment. For the morphological study, tracheal samples were taken, for electron microscopic - a reaction to the alkaline phosphomonoesterase according to Mayahara et al. [1]. On semi-thin tracheal sections stained with methylene blue, the number of epithelial cells was counted. Electron diffraction measurements were used to measure the area and size of the basal cell.
Results and discussion

The cooling of the animal's body caused a change in the distribution of the reaction products to the alkaline phosphomonoesterase in the poorly differentiated cells of the epithelial layer, which indicated a decrease in the regeneration of the epithelial cells of the respiratory mucosa depending on age. In young animals, general cooling contributed to a decrease in the reaction, which manifested itself in the form of an uneven distribution of small granules in the membranes of basal cells. The number of basal cells remained virtually unchanged, the area of the basal cell and the size of the nucleus decreased and was respectively 23.7 ± 0.35 μm² (intact 32.3 ± 0.27 μm²); 14.6 ± 0.21 μm² (intact 21.9 ± 0.15 μm²). In the group of old animals, the reaction in the membranes of basal cells had focal localization, the granules of the enzyme on the surface of the membranes were unevenly distributed, the number and size of basal cells decreased more significantly. With the introduction of dihydroquercetin and the general cooling of the body in animals 6-7 months in the membranes of basal cells significantly increased the number of reaction products to alkaline phosphomonoesterase. The reaction granules were located tightly, were numerous and clearly contoured the boundaries of the cells. Part of the basal cells was in preparation for mitotic division. Thus, this indicated an increase in epithelial regenerative activity, while the number of basal cells increased. The area of the basal cell and its venom increased and amounted to 29.7 ± 0.42 μm² and 20.8 ± 0.38 μm². In the basement membrane, the reaction products were detected in the form of a small number of small granules located in a wide band, apparently this marks those areas through which the transport of various products and metabolites takes place. An increase in the activity of alkaline phosphomonoesterase causes an increase in the level of differentiation of stem cells, and also helps to restore the relationship and activates the metabolism between epithelial cells and the basement membrane [3]. In the group of old animals, an increase in the number of reaction products to the enzyme in the membranes of basal cells was also noted, but the intensity of the reaction was less pronounced than in the group of young animals.

Conclusion

Thus, the introduction of dihydroquercetin on the background of general cooling of the body, both in animals 6-7 months and 19-20 months, leads to an increase in the activity of alkaline phosphomonoesterase, which contributes to an increase in the regenerative potential of trachea epithelial cells.

References:
Abstract
Side effects of antiepileptic drugs include changes in the functional state of the liver, the formation of systemic toxicity and primarily inhibition of hematopoiesis. Such changes develop due to the increased intensity of lipid peroxidation and the formation of oxidative stress in the body. The results of clinical studies have shown that the introduction of carbamazepine is accompanied by changes in antioxidant status in children with epilepsy. In turn, the use of reamberin 1.5% solution for infusions 200 ml daily intravenously drip for 5 days contributed to a significant decrease in the content of lipid hydroperoxides by 14.2%, diene conjugates – by 14.6%, malonic dialdehyde - by 14.3% against the background of an increase in the level of ceruloplasmin by 19.3%, vitamin E – by 14.5%, catalase – by 10.4%, which confirms the antioxidant properties of reamberin.

Key words: reamberin, carbamazepine, lipid peroxidation, antioxidant system, epilepsy, children.

To date, carbamazepine takes the position of the "gold standard" in the treatment of epilepsy, but preclinical and clinical studies have shown that this anticonvulsant promotes activation of peroxidation, the formation of oxidative stress in the body and, consequently, the development of side effects, systemic toxicity, predetermining the validity of pharmacocorrection drugs with antioxidant and antihyopoxant activity.

Objective
To study the effectiveness of reamberin in the correction of peroxide processes induced by the introduction of carbamazepine in children with epilepsy.

Materials and methods
10 patients with epilepsy of children aged 6-15 years (5 boys and 5 girls) receiving carbamazepine in a daily dose of 200-400 mg (the dose was adjusted in accordance with the survey and undesirable effects) were examined in the "Amur regional children's clinical hospital". Within 5 days of inpatient treatment, children received the drug reamberin 1.5% solution for infusions of 200 ml daily intravenously drip. Venous blood was performed before (phase I) and after (phase II) course of therapy with reamberin. In the blood plasma of patients was determined by the products of peroxidation – hydroperoxides of lipids, diene conjugates, malonic dialdehyde and the components of the antioxidant system ceruloplasmin, vitamin E, catalase. The following devices were used: spectrophotometer KFK-2MP, spectrophotometer UNICO, photoelectrocolorimeter Solar PV 1251 C. Statistical processing was carried out using the Student test (t), the results were considered reliable at p<0.05.

Results and discussion
The introduction of reamberin in children on the background of treatment with carbamazepine prevented the accumulation of products of lipid peroxidation: the content of lipid hydroperoxides significantly decreased 14.2%, diene conjugates – by 14.6%, malonic dialdehyde - by 14.3% compared to the same parameters obtained at the first stage of the research (p<0.05). Analyzing the activity of the components of the antioxidant system, it is important to note that the use of succinate-containing drug allowed to significantly increase the level of ceruloplasmin by 19.3%, vitamin E – by 14.5%, catalase – by 10.4%, which confirms the antioxidant properties of reamberin.

Conclusion
The results of the study confirmed the effectiveness of reamberin in correcting the processes of lipoperoxidation during therapy with carbamazepine, which indicates the feasibility of the inclusion of succinate-containing drug in the complex therapy of children with epilepsy.

References
INTRAOCULAR FLUID AS A BIOMATERIAL FOR BIOCHEMICAL STUDIES

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Abstract
The possibility of using the method of UV-spectroscopy to determine the degree of oxidative modification of intraocular fluid lipids has been shown.

Key words: intraocular fluid, cataracts, UV-spectroscopy, lipid oxidation

The human eye contains about 0.2–0.3 mm of intraocular fluid [1], whose composition is similar to the composition of blood plasma, but the content of individual components is much lower [2, 3]. Due to the complexity of the material sampling and the low content of the main components, the study of intraocular fluid has not spread. Therefore, it is relevant to search for sensitive research methods, which allow to detect subtle changes in the composition of the intraocular fluid under conditions of pathology and, in particular, the content of oxidized lipids. Earlier, we used UV spectroscopy of lipid extracts from exhaled air condensates to determine the content of oxidized lipids in them [4] and evaluate the role of oxidative stress in the formation of bronchospasm in patients with chronic obstructive pulmonary disease [5].

Objective
The purpose of this study was to find out the possibility of using UV-spectroscopy of lipid extracts from intraocular fluid to determine the content of oxidized lipids in it.

Materials and methods
Samples of intraocular fluid in a volume of 0.1-0.2 ml were taken by puncturing the cornea in the area of the limb with a sterile syringe before starting the operation in patients with cataracts and kept frozen at a temperature 25°C. Lipids were extracted from the EBC samples by the Bligh-Dyer method [6]. Three ml of chloroform: methanol 1: 2 (v/v) mixture was added to 0.1-0.2 ml of the sample of intraocular fluid in glass tubes and intermittently mixed within 10 min. Then
1.5 ml of distilled water was added. The mixture was intensively stirred and centrifuged at 3000 rpm for 10 min. A chloroform phase was collected and immediately evaporated at rotary evaporator under reduced pressure. Dry residue on the walls of the cone was dissolved in 3 ml of ethanol. The absorbance spectra of the lipid extracts from EBC were recorded on a spectrophotometer UNICO 284 by differential scheme against ethanol in the range of 190-700 nm in wavelength scan measurement mode. We use UV-Vis Analyst software to control the spectrophotometer, represent and store the results of measurements.

**Results and discussion**

The figure shows the absorption spectra of two samples of intraocular fluid. The main absorption maximum is recorded at 204 nm and reflects the absorption of non-oxidized lipids [4]. The degree of oxidative modification of lipids in the studied samples is small and therefore the absorption at 233 nm and 278 nm, characteristic of diene conjugates, as well as trienes and ketodienes, respectively [6], does not have distinct peaks and manifests itself as a shoulder on the main absorption spectrum. In addition to these peaks, two peaks are detected in the visible region of the spectrum at 409 and 666 nm. The absorption maximum recorded at the instrument at 535 nm is negligible (A=0.0035) and hardly deserves attention.

**Conclusions**

1. The amount of lipids in the intraocular fluid is sufficient to detect them using UV-Vis spectroscopy of lipid extracts.
2. The method allows to evaluate the degree of oxidative modification of lipids in this biomaterial and can be used to determine the contribution of oxidative stress to the development of diseases of the eyeball.
3. It is of interest to identify the minor absorption peaks at 409 nm and 666 nm.

![Figure. The absorption spectra of two samples of intraocular fluid.](image-url)
References

INNOVATIVE METHODS OF TEACHING STUDENTS OF MEDICAL ACADEMY

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Abstract
As a result of the research the author concludes that it is necessary to change the system of teaching and proposes the use of innovative methods in modern education. The use of innovative teaching methods in the process of teaching students in the medical Academy is described. The use of active forms of education is proposed and the experience of their use in the training of students of the Amur GMA in the discipline «Medical Informatics» is presented.

Key words: innovative methods, active learning, students.

Objective
Formation of effective management of classes in the medical Academy using innovative teaching methods.

Materials and methods
Questioning, target method of teaching, method of expert assessments.
Modernization of education requires a modern doctor to constantly improve professional skills. One of the indicators of skill is its ability to self-education, the desire for growth and self-improvement.

According to the state standard, the future doctor should be able to: to implement prevention of diseases, prophylactic medical examination healthy and sick; to diagnose and treat patients in the provision of routine and emergency medical care, the study of which provided the curriculum and plans of study in the medical Academy; maintain medical records; conduct forensic examination; provide medical assistance at the centers of mass lesions of the population; effectively conduct the medical education of healthy and sick [1, c. 152].

In order to diagnose and treat patients, the doctor must first have diagnostic skills based on theoretical training and practical experience. Therefore, it is necessary to pay attention to the importance of diagnostic skills in the professional activity of the future doctor. And in order to produce high-quality specialists, it is necessary to revise the methods of training in the medical Academy. According to a number of scientific teachers, in order to improve and activate the educational process in higher education, it is important to take into account the peculiarities of higher education, which requires the restructuring of future doctors stereotypes of educational work. One of the important components of the strategy of restructuring of vocational education was the widespread introduction into the educational process of active forms of education, which cover all types of classroom and extracurricular activities with students [2, c. 30].

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The use of active forms of education in the teaching of medical disciplines due to the fact that students should not only gain some knowledge, but also be able to apply them in a particular practical situation. These methods contribute to the active interaction of students and teachers.

Active learning is, first of all, new forms, methods and means of teaching that encourage students to active mental and practical activity in the process of mastering the educational material [2, с. 28].

It is assumed that the use of such a system of methods is mainly aimed not at the presentation of ready-made knowledge by the teacher, their memorization and reproduction, but at the independent mastery of students' knowledge and skills in the process of active thought and practice.

Currently, the Department of medical physics in the discipline «Medical Informatics» introduced the following active methods of teaching students: problem lectures: «Evidence-Based medicine», «The use of probabilistic diagnosis in medicine»; problem seminars: «Telecommunication technologies in medicine», «Automated workplace doctor»; thematic discussions: «E-health», «Maintaining electronic medical history»; round tables: «Unresolved problems in medicine»; brain attack: «Telemedicine», «Electronic medical card»; game exercises (glossary, crossword, filling tables, drawing up algorithms in the EMC...).

The main principle of active teaching methods – a ban on student statements «I can't», «I don't know». It is recommended to observe the principle of free space: the participants can move freely, be placed in a circle, join in small groups, individually retire to solve the problem, perform the task.

Results and discussion

New interactive teaching methods have been developed and introduced into the educational process. According to the results of the survey, these teaching methods motivate students to solve the problem on their own. The most effective types of classes students consider (94%) practical classes of innovative type (disputes, trainings, game situations, role-playing), the method of «round table». Students are actively involved in this type of training.

The use of innovative methods, which include active teaching methods significantly improve the quality of training of medical students in modern conditions of market needs. The process and result of obtaining knowledge acquires personal importance for each student and allows to develop the ability to independently solve the problem.

References


ASTHMA–CHRONIC OBSTRUCTIVE PULMONARY DISEASE OVERLAP SYNDROME

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Abstract

The study of asthma–chronic obstructive pulmonary disease overlap syndrome (ACOS) is relevant due to the difficulties in diagnosing, treating and preventing exacerbations of this condition. In recent years, ACOS has been of particular interest to clinicians and researchers due to the severe course, frequent exacerbations and resistance to therapy.

Key words: asthma, chronic obstructive pulmonary disease, overlap asthma and COPD.

Asthma and chronic obstructive pulmonary disease (COPD) are widespread, socially significant diseases characterized by obstruction of the respiratory tract, which is highly variable with asthma, and partially reversible and/or irreversible with COPD [2,3,4,6,7,8]. Although asthma
and chronic obstructive pulmonary disease are two separate, most common diseases of the respiratory system, a combination of both pathologies symptoms is a separate condition called asthma-COPD overlap syndrome (ACOS). The prevalence of ACOS varies according to diagnostic criteria from 2.1 to 55%. The presence of signs of both nosological forms causes difficulties in the diagnosis and determination of medical tactics [8,9].

Objective
The study of clinical and functional features of the course of a combination of asthma and chronic obstructive pulmonary disease (overlap syndrome) at the present stage.

Materials and methods
Clinical and anamnestic data, spirometry indicators with bronchodilation test (salbutamol, beordual), peak flowmetry, pulse oximetry, AST, CAT-test, fibrobronchoscopy were studied. Clinical and functional features of the course, indicators of lung ventilation function in 35 patients with asthma and COPD overlap syndrome of varying severity were studied.

Results and discussion
The average age was 53.2 ± 1.5. 68.2% were men, 31.8% were women. The second group of observation consisted of 32 patients with moderate-course asthma. The third group included 33 patients with COPD (phenotype with frequent exacerbations). The combination of asthma and COPD manifested more frequent and severe exacerbations than in patients of the second observation group, poor quality of life, progressive decrease of forced expiratory volume in one second (FEV1), incompletely reversible obstruction of the respiratory tract, progressive reduction of exercise tolerance, mainly neutrophil inflammation in the mucous membrane of the bronchi, a decrease in the effectiveness of glucocorticoids, an increase in the need for β2-agonists [1,5,6,7]. In compare with the COPD phenotype with frequent exacerbations (third group), patients with a combination of asthma and COPD had fewer symptoms and better quality of life indicators. A low number of exacerbations and a relatively higher quality of life in patients with a combination of asthma and COPD may be associated with the appointment of inhaled glucocorticoids, which 87% of patients with ACOS used.

It was noted, that a mixed type of respiratory ventilation impairment prevailed in the study of spirometry indicators of patients with ACOS (in 71.4% of patients). In addition, vital capacity (VC), forced VC (FVC), FEV1 and FEV1/FVC were reduced.

Conclusion
The presence of signs of both nosological forms causes difficulties in the diagnosis and determination of medical tactics. ACOS is characterized by persistent airflow restriction, a number of signs associated with asthma, and a number of signs associated with COPD. Therefore, ACOS is defined by features characteristic of both asthma and COPD. The diagnosis of ACOS is recommended to be assumed in all patients over the age of 40 with persistent airway obstruction, a history of smoking or exposure to biofuel combustion products, as well as asthma or severe airway reversibility in response to bronchodilators during spirometry [5].

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DISEASES OF CHILDREN BORN FROM MOTHERS WITH BRONCHIAL ASTHMA

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Abstract
Examined children born from mothers with bronchial asthma (BA), studied the frequency and structure of allergic morbidity in ontogenesis. According to the results of the study, a number of clinical and anamnestic signs were established that have a direct impact on the formation of allergic diseases and the development of asthma. Among the children observed in the follow-up from mothers with asthma, allergic diseases were detected in 60.6%, of which: atopic dermatitis - in 38.3%, BA - in 30 (16.7%), allergic rhinitis - in 11.1%.
Key words: bronchial asthma, children, ontogenesis

Objective
The aim of the work is to study the frequency and structure of allergic morbidity in ontogenesis of children, born from mothers with bronchial asthma. We studied the incidence and factors that determined it for children of 1 month - 3 years old, born from mothers with BA.

Materials and methods
The observation was conducted in 180 children born from mothers with BA. 90 children were aged 1 from month to 1 year and 90 children – from 1 to 3 years. The comparison group consisted of 70 children of the same age, born from mothers without bronchopulmonary pathology. In order to value the impact of the level of mothers’ BA control during pregnancy on the health of children of the first year of life, there were made 2 groups of children. Group I-st - 50 children from mothers with uncontrolled BA, group II-nd - 40 children from mothers with partially or fully controlled BA, group III-rd - 30 children from mothers without bronchopulmonary pathology.

Results and discussion
33.3% of children from groups I and II were born by caesarean section. 38 children from the 1st group (76.0%) and 13 from the 2nd group (32.5%) were discharged from the maternity hospital with cerebral ischemia I-III severity; with the implementation of intrauterine infection (IUI) - 12 children of group I-st (24.0%) and 7 of group II-nd (17.5%). The combination of cerebral ischemia and IUI was observed in 26.0% of children in group I-st and 15.0% of children in group II-nd. In the comparison group, these data were 20.0% and 23.3%, without combined conditions for these diseases. 2 children (4%) of group I and 5 children (12.5%) of group II were considered healthy. Throughout the first year of life, the following conditions were noted more often than others: hyperexcitability - in 8 (16.0%) children of group I-st and 6 (15.0%) of group II-nd, hypertension
syndrome, respectively, in 7 (14.0%) and in 1 (2.5%), syndrome of motor disorders - in 8 (16.0%) and in 5 (12.5%), vegeto-visceral dysfunctions - in 7 (14.0%) and 3 (7.5%) children. The delay in physical development was observed in 7 (14.0%) children of the I-st group and 3 (7.5%) of the II-
nd group.

There were better conditions for the development of the fetus, the health of the newborn and the child of I year of life with controlled BA than in the absence of disease control. At the same time, cerebral ischemia was observed 2 times less often, 1.7 times less often - its combination with IUI, 1.9 times less often - delayed physical development, less often stress of adaptation processes was noted - 1.7 times and 3 times more children are considered healthy.

Throughout the first year of life, 50 (55.5%) children from mothers with asthma showed signs of allergic diathesis. Most often, children had atopic dermatitis, noted in 52.2% of mothers with asthma and in 26.7% in the comparison group. Studying morbidity of 110 children in the first 3 years of life, in 24 (20.8%) of them revealed transferred respiratory pathology in the first 6 months, in 56 children (50.8%) - in the second half, in 12 (60.0 %) - in the second year, in 15 (75.0%) - in the third year. 32 children (29.1%) had a broncho-obstructive syndrome, appeared after acute respiratory viral infections in the first year of life, while hereditary burden of allergic diseases were traced in 2 generations of 10. 6 children developed the syndrome of bronchial obstruction on the background of passive smoking in their families, 6 children (5.5%) were diagnosed with asthma in the first 3 years of life.

**Conclusions**

A close correlation was found between the level of BA control during gestation and the frequency of allergic diseases (allergic diathesis, atopic dermatitis, BA) of the observed children (r = 0.7-0.82). 34.3% of the observed children are classified as frequently ill, whereas in the comparison group - 3 (10%). It should be noted that the timing of BA manifestation is shifted to an earlier age, when BA is diagnosed in patients already in their first year of life (6-9 months).

In general, among the observed children born from mothers with asthma, allergic diseases were found in 60.6%, of which: atopic dermatitis - in 38.3%, asthma - in 16.7%, allergic rhinitis - in 11.1%.

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ANTIMICROBIAL ACTIVITY OF PLANT POLYPHENOLS

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Abstract
Plant biologically active substances have antimicrobial, antifungal and anti-infectious properties. The active ingredient are polyphenols. Catechol polyphenol provided increased permeability of the outer membrane of bacteria, inhibition of ion transport from bacterial cells, repression of genes of resistance to antibacterial substances, mobility, adhesion, virulence. Catechol sublethal concentrations inhibited bacterial biofilm formation and increased sensitivity to antibiotics. The data are similar to the results of Russian studies, where a positive dependence of the inhibition of the formation of the bacterial film E.coli on the concentration of flavonoid dihydroquercetin is revealed.

Key words: plant biologically active substances, polyphenol, flavonoid, dihydroquercetin, catechol, antimicrobial activity, antifungal activity, anti-infective activity, microorganism, microbes, fungi.

Antimicrobial activity is one of the many properties of plant compounds in relation to the biological world [5]. For medicinal purposes, the plants were used more than fifty thousand years ago. Only in the XX century the known successes of chemotherapy pushed the use of herbal medicines into the background. However, in recent years, the interest of researchers to them has increased, as the search for alternative anti-infectious agents, to which there is no drug resistance of infectious agents.

Objective
To identify the anti-infective properties of flavonoids, the published results of their antimicrobial properties are considered.

Results and discussion
The researchers question is which factors in flavonoids cause their antimicrobial and anti-infectious properties. Two decades ago, botanists have been established antibacterial and antifungal activity of chemical compounds extracted from the leaves of plants such as Acacia nilotica, Sida cordifolia, Tinospora cordifolia, Withania somnifer and Ziziphus mauritiana. Antimicrobial activity showed against Bacillus subtilis, Escherichia coli, Pseudomonas fluorescens, Staphylococcus aureus and Xanthomonas axonopodis pv. malvacearum. Antifungals were shown against Aspergillus flavus, Dreschlera turcica and Fusarium verticillioides [6].

As we can see, antagonism is manifested to the causative agents of human infectious diseases, both microbial and fungal. The highest mutual activity, the authors note the representatives of the family Fabaceae (Acacia nilotica) and the family Malvaceae (Sida cordifolia). According to existing ideas, the traditional use of acacia for medical purposes was explained by the healing of the gum contained. Gum is a high molecular weight carbohydrate. Or rather-soluble or swollen in water polymers of monosaccharides (arabinose, galactose, glucose, rhamnose, uric acids). It is interesting that the gums include polysaccharides of microorganisms, for example, starch or cellulose modifications accumulated
in the culture liquid. It can be assumed that foreign gums competitively replace microbial gums, which leads to both violations of microbial metabolism and changes in adhesive properties, for example, by modifying the viscosity of the environment.

Studies of scientists of the last few years have shown that the antimicrobial properties of plant materials can play a major role phenolic compounds [4]. The representative of naphthol-monatomic phenol (C₆H₆O) is used as an antiseptic and disinfectant in practical medicine for more than a hundred years. These properties are due to the direct destructive effect on the cell, including bacterial. In aqueous solutions, phenol, being an electrolyte, dissociates by acid type, forming a weak acid [1]. Phenol is the end of the amino acid side group of tyrosine, which is why it is present in the composition of each protein molecule [2]. Plant biological substances are more often represented by polyphenols. They are divided into tannins and phenylpropanoids, which include, for example, flavonoids. Such substances are known to enter into positive synergism with antibiotics, inhibiting the growth of gram-negative pathogenic microflora represented by *E.coli*, *Proteus mirabilis*, *Pseudomonas aeruginosa* [7]. The authors reported that in the study the main active polyphenolic substance was catechol. According to the authors, the antagonistic effect was achieved by increasing the permeability of the outer membrane of bacteria, inhibiting ion transport from the bacterial cell. At the genetic level, repression of genes responsible for resistance to antibacterial substances, mobility, adhesion, virulence was found. Moreover, in sublethal concentration catechol suppressed the formation of bacterial biofilm and potentiates antibiotics susceptibility.

**Conclusions**

These data directly correlate with the results of similar Russian studies. An intensive study of the flavonoid dihydroquercetin (C₁₃H₁₂O₇) showed a number of its anti-infective properties. Its effect on the intestinal microflora of mammals was found in experiment [1]. When studying the effect on the formation of biofilms, it was found that dihydroquercetin interferes with the adhesion and colonization of the plastic surface by *Staphylococcus aureus*. Moreover, the positive dependence of the inhibition of the formation of the bacterial *E.coli* film on the concentration of this flavonoid was revealed [3]. Thus, further studies of the antimicrobial properties of flavonoids are promising.

Thus, further studies of antimicrobial properties of flavonoids are perspectives.

**References**

RISK FACTORS OF OSTEOPOROSIS IN MEN OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Abstract
Systemic manifestations of chronic obstructive pulmonary disease (COPD) reduce the quality of life of patients, contribute to early disability and make a significant contribution to the mortality of patients. One of the most serious and socially significant systemic manifestations of COPD is osteoporosis. During the study of modifiable risk factors that affect bone tissue, smoking was the most significant. This is confirmed by the close inverse correlation relationship between the T-test index (L1-L4) and AK (r = 0.63, p <0.001).

Key words: chronic obstructive pulmonary disease, osteoporosis, risk factors.

Objective
To study the prevalence and structure of the OP DF, the likelihood of the development of OP-fractures, features of the osteopenic syndrome in males with COPD.

Chronic obstructive pulmonary disease (COPD) is one of the leading public health problems. COPD is characterized by systemic manifestations such as skeletal muscle dysfunction, weight loss, cardiovascular disease, metabolic syndrome, osteoporosis (OD), anemia, renal dysfunction, and the like. [1, 3, 4]. The development of comorbid conditions of COPD occurs in the presence of common risk factors, systemic interrelations and direct interactions of various pathological processes [6]. OP is a systemic metabolic disease of the skeleton, which is characterized by a decrease in bone mass and impaired microarchitecture, and as a result, fractures with minimal trauma [2]. It is relevant to identify the modified risk factors (RF) [5], affecting the development of secondary OP in patients with COPD, the identification of which in the early stages of the disease should be referred to as predictive diagnostics. This determined the purpose of our study.

Materials and methods
The study involved 100 men of moderate to severe COPD patients aged 45 to 65 years who were treated in the specialized pulmonology department of the State Agrarian Company GKB and DNT FPD. The disease duration was 15.9 ± 4.5 years. The diagnosis was set in accordance with the recommendations of GOLD 2017. The study did not include persons with other diseases and conditions leading to a decrease in bone mineral density (BMD).

BMD was determined by the method of double X-ray absorptiometry (DRA) in the spine and proximal femur region using a LUNAR 8743 densitometer from GE Medical Systems Lunar (USA). BMD was evaluated in relative terms (T and Z criteria). Diagnosis of OP and osteopenia (ARF) was carried out using WHO diagnostic criteria (1994), based on a quantitative assessment of BMD, as the determining factor in bone strength.

Prior to the examination, patients did not receive specific therapy for the prevention and treatment of OP. FR of OP development was assessed using the minute test recommended by the OP International Fund (2008). The 10-year probability of OP-fractures was calculated using the FRAX computer program, as recommended by the International Association for EP and WHO (2008). Statistical processing of the results was performed using Statistica 10 statistical software package.

Results and discussion
According to the data obtained by the FR of the development of the OP, almost every man with COPD was found. 86 (86%) patients were active smokers. Among them, malicious smokers - 38 (38%) people. Excessive alcohol consumption was detected in 26 (26%) patients. Insufficient intake of dairy products (as the main sources of calcium) was found in 100% of cases. Low physical activity was noted in 46 (46%) people. Normal body weight was detected in 24 (24%) patients, body weight deficiency was recorded in 6 (6%) patients, and overweight in 70 (70%) patients, of which 31 (44.28%) people were obese. Osteoporotic hereditary history was detected in 3 (3%)
patients. Most patients did not have information about this hereditary pathology. 25 (25%) people used inhaled glucocorticoids, both for relief of exacerbations, and as basic therapy. Osteoporotic fractures and prolonged immobilization were not identified. It should be noted that the majority of patients (86%) had a combination of more than 2 RF. Among the modifiable risk factors that affect bone tissue, smoking was the most significant. This is confirmed by the close inverse correlation relationship between the T-test index (L1-L4) and AK (r = 0.63, p <0.001).

According to the results of DRA, normal BMD indices in all examined sections of the skeleton were detected only in 34 (34%) patients, ARF was detected in 30 (30%) patients, OP - in 36 (36%) patients. Of these, a decrease in the T-criterion - 2.5 SB only in the lumbar region was detected in 11 (30.5%) patients, in the neck of the femur in 8 (22.2%), in the hips in general in 4 (11.1%), simultaneously in several parts of the skeleton in 13 (36.1%). A decrease in the Z-test - 2.0 CO in the lumbar spine was detected in 10 (27.7%) patients, in the neck of the femur in 9 (25%), in the hip area as a whole in 3 (8.3%), simultaneously in several parts of the skeleton in 14 (36.1%). The mean T-test values in patients with COPD fit into the category of severe osteopenia, amounting to \(-1.86 \pm 0.14\) SD.

When assessing the absolute risk of the main typical fractures associated with OP in men with COPD using the FRAX computer program, it was found that the risk of fractures is 5.33 (4.26-8.3).

**Conclusion**

Thus, it has been shown that males with COPD have a wide range of traditional RFs of secondary OP, which necessitates their timely diagnosis and prevention.

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**FEATURES OF THE COURSE OF PNEUMONIA IN CHILDREN OF THE AMUR REGION IN 2018**

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**Abstract**

Taking into account the growing number of patients with pneumonia throughout Russia and including among children of the Amur Region, the clinical and anamnestic picture of the disease, the difficulties encountered in diagnosis, the effectiveness of antibiotic therapy are considered.

**Key words:** pneumonia, children, clinical characteristics.
In the first quarter of 2018, the incidence of pneumonia in the country increased by 16% compared to the level of last year, the report of the Federal Service for Supervision of Consumer Rights Protection and Human Rights stated. A significant increase is observed among children - in the first quarter of 2018, the disease was transferred by 40% more patients under the age of 17 years than in the same period a year earlier (91.4 thousand and 63.6 thousand, respectively). According to Rosstat, in 2017, 526 children and adolescents and more than 26 thousand adults died from pneumonia [1]. The number of children treated with a diagnosis of pneumonia in 2018 in the Amur Regional Children's Clinical Hospital almost doubled compared with last year (561 children) and accounted for 68% of all patients with a pulmonary profile.

**Objective**
To study the peculiarities of pneumonia in children of the Amur Region, who are being treated at the State Autonomous Healthcare Administration of Amur Regional Children's Clinical Hospital in 2018.

**Materials and methods**
Analysis of 115 case histories of children living in the city of Blagoveshchensk and the Amur Region who were treated at the Amur Regional Children's Clinical Hospital with a diagnosis of pneumonia in 2018. Statistical data processing in the program Statistica 10.

**Results and discussion**
The age of sick children at the onset of the disease is from 1 month to 17 years. Most of the sick children are children from 8 to 13 years old (52 people - 45.2%), which is not significantly different from last year. There is no difference in gender (50:50).

Investigating the features of the clinical picture, it was revealed that an acute onset with fever of 38.0 ° C and higher, persisting for more than 4 days, chills, loss of appetite, were characteristic of most children - 75%. However, 25% of children had a mild intoxication syndrome. The initial manifestation of pneumonia in children is rhinopharyngitis, which occurs with the intoxication syndrome of 52 children (45.2%).

Dyspnea and fine bubbling rales, characteristic of pneumonia, are not the leading symptoms in sick children. Dyspnea as a clinical symptom was noted in 12 patients. Fine bubbling rales were heard only in 13 children out of 115 (11.3%). Focal symptoms in the form of a dulling of pulmonary sound above the lesion and weakening of breathing are much more common.

Localization of the inflammatory process in most cases - to the right 62.6% (72 children). On the left - 31.3% (36 children), and bilateral pneumonia - occurred in 6.1% of cases (in 7 children).

In the clinical analysis of blood, leukocytosis of more than $11.0 \times 10^3/l$ was detected in 17 children (14.7%), neutrophilia - in 12 children (10.4%). Increased ESR - in 22 children (19.1%), increased C-reactive protein - in 64 children (55.7%). Thus, one should not overestimate the presence of "typical for pneumonia signs of inflammation in blood tests." The combination of clinical symptoms is more helpful in terms of diagnosis.

Viruses from the nasopharynx by the express method were not detected in almost any of 42% of the children examined. But atypical microflora infection occurred in a total of 26 patients out of 108 examined - 24.1%. Mainly, antibodies of class G to Micoplasma pneumonia were detected (found in 17% of patients), of which, in combination with antibodies of class M, in 9.6% of children. Class G antibodies to Chlamidia pneumonia were detected in 6 patients (5.2%).

The phlegm for the study was not collected from the examined children. Detected pathogens in smears from the throat: Staphylococcus intermedius; Staphylococcus epidermidis; Staphylococcus aureus; Neisseria spp.; Klebsiella pneumoniae; β-hemolytic streptococcus group B. Most patients had mixed microflora.

87% of children were vaccinated before the onset of worsening of the epidemiological situation, either only against the flu (2 children - 1.7%) or only against pneumococcal infection (30 children - 26.1%), and 58 children (50.4%) were vaccinated against these two infections at the same time.

The drugs of choice for treating children with pneumonia were an inhibitor protected penicillins, 3-generation cephalosporins and modern macrolides, which proved to be particularly effective in the
presence of atypical pathogens. Only in 14 children the initial choice of antibiotic was ineffective, which required its replacement. Thus, the increase in the incidence of pneumonia in 2018 is obvious, but there are no significant changes in terms of reducing the age of sick children, localization of the inflammatory process, and detectable pathogens. Pneumonia is a serious disease that requires increased attention, the symptoms of which may not be sufficiently characteristic and specific.

References

CURRENT TRENDS IN THE SURGICAL TREATMENT OF UTERINE LEIOMYOMA

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Abstract
Uterine leiomyoma is a frequent gynecological pathology. The main treatment for leiomyoma is surgical. Today, the frequency of organ-sparing operations is increasing, endoscopic myomectomy prevails. Hysterectomy is performed at an older age.

Key words: uterine leiomyoma, surgical treatment, myomectomy, hysterectomy.

Uterine leiomyoma is a benign tumor of the female genital organs. The frequency of uterine leiomyoma in women of reproductive age ranges from 20 to 40% of cases, reaching maximum values in the late reproductive and premenopausal period. Recent large-scale pathological studies indicate that its prevalence can reach 85% [6]. Patients with uterine myoma constitute the main contingent of gynecological inpatient departments, undergo repeated diagnostic, surgical and medical effects, and in some cases radical operations. The role of uterine fibroids in the genesis of infertility is not fully understood, but in 20% of infertile women it is the only pathology of the reproductive system [4]. The problem becomes more significant due to the tendency towards late pregnancy planning, when the risk of uterine leiomyoma increases significantly. In addition, the disease affects menstrual function, leads to chronic blood loss and anemization.

There are two main areas of treatment for uterine leiomyoma - conservative and surgical. Surgical treatment involves either the removal of a tumor (myomectomy), or a more radical approach, hysterectomy. Traditionally, 75-83% of patients with fibroids undergo surgery, which is an effective treatment method [1]. The scope of surgical treatment can be performed with endoscopic or open (abdominal) access.

The most common operation remains hysterectomy. In Russia, the frequency of hysterectomy among abdominal gynecological operations ranges from 32.5 to 38.2%, in Sweden - 38%, in the USA - 36%, in the UK - 25%, [3]. According to AL Tikhomirov (2010), the average age of patients undergoing hysterectomy is 40 ± 3.4 years [5]. After radical operations on the uterus, 20-30% of women experience psycho-emotional disorders, changes in the neuroendocrine system, and urodynamic disorders, which greatly impair their quality of life [3]. In view of this, an organ-preserving approach has been adopted for the operative treatment of women with uterine myoma, including those who are not planning a pregnancy. But on the other hand there is a risk of recurrent growth of myomatous nodes after organ-sparing operations and the presence of the multiple nature of the tumor increases the risk of recurrence of uterine fibroids in the postoperative period.

Objective
To study the scope of surgical treatment of uterine leiomyoma, conducted on the basis of the gynecological department of the Blagoveshchensk City Clinical Hospital and compliance with current global trends.
**Materials and methods**

We analyzed all types of surgical treatment for uterine leiomyoma, performed by laparoscopic and laparotomic access at the base of the Department of Operative Gynecology of the city clinical hospital for 6 months of the current year. During the study period, 73 operations were performed for uterine leiomyoma. The following volumes of surgical treatment were performed: in 29 cases - laparotomy, of them hysterectomy in 26, myomectomy in 3 cases, 44 patients were operated on with endoscopic access, of them hysterectomy was performed in 20, myomectomy in 24.

**Results and discussion**

The average age of patients who underwent hysterectomy was 49.9 years. Myomectomy exposed women aged 18 to 50 years, while the average age is much less than in the group of patients with hysterectomy and amounted to 38.9 years.

The indications for surgical intervention were: large size of the tumor, the presence of subserous node 0-type, dysfunction of neighboring organs, the rapid growth of myomatous nodes, nut amenable to medical treatment, infertility. The indication for hysterectomy often served as the multiple nature of the tumor, atypical or submucous nodules in premenopausal women. Abdominal hysterectomy is predominantly carried out with a uterus size of 15 weeks or large and giant myoma nodes. In 3 cases, abdominal access was performed myomectomy, with the average age of patients 32.2 years. They had a concomitant adhesion, or several large myomatous nodes, and planned pregnancy.

Today, the improvement of the treatment of fibroids occurs mainly as a result of the use of new technologies, which allows for more benign and less traumatic operations that reduce the risk of complications and improve the quality of life of patients. Endovideosurgery has become a particularly popular method of surgical intervention in the past two decades. Laparoscopic radical and reconstructive plastic surgery on the uterus is characterized by the minimum number of complications, reduction of postoperative bed-day and drug consumption, reduction of the cost of treatment, good cosmetic effect.

In our clinic, endoscopic myomectomy was performed mainly with subserous nodes of medium size. Multiple myomectomy was performed with laparoscopic access in 75% of patients. The highest level of technical complexity was subserous nodes with an intramural component or large intramural 7–10 cm. This situation occurred in 41.7% of cases. The atypical transverse node site was in 12.5% of patients, they also underwent an organ-sparing operation.

**Conclusions**

Thus, the surgical treatment of uterine leiomyoma has the following tendencies: older patients undergo hysterectomy, the operation technique is improved, the proportion of organ-sparing interventions is increased by endoscopic access.

**References**

RESULTS OF THE STUDY OF ANTIOXIDANT STATUS IN PATIENTS WITH EPILEPSY OF CHILDREN

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Abstract
Comparative evaluation of antioxidant status in children with monotherapy of epilepsy with carbamazepine and valproic acid was carried out. It is shown that the introduction of antiepileptic drugs increases the intensity of lipid peroxidation against the background of reduced activity of the antioxidant system components in the blood plasma of children. It was found that carbamazepine has a more pronounced prooxidant effect in children with epilepsy in comparison with valproic acid.

Key words: children, epilepsy, carbamazepine, valproic acid, lipid peroxidation, antioxidant system.

Objective
To study of antioxidant status parameters in monotherapy of epilepsy in children.

Materials and methods
Two groups of epileptic children aged 6-15 years (9 boys and 11 girls) were examined in the Amur regional children's clinical hospital. In the first group (n=10) therapy was carried out with valproic acid, in the second group (n=10) – carbamazepine. A control group of 15 healthy children, matched for sex and age. Products of lipid peroxidation – lipid hydroperoxide, diene conjugates and components of antioxidant system – ceruloplasmin, vitamin E, catalase-were determined in blood plasma of patients. Statistical processing of the results was performed using the Student test (t), the results were considered reliable at p<0.05.

Results and discussion
Monotherapy with carbamazepine contributed to a significant increase in plasma lipid hydroperoxides in children by 8.6%, diene conjugates by 13.8% with a decrease in catalase activity by 17%, ceruloplasmin by 8.5% and vitamin E by 6.4% compared with similar indicators in the control group (p<0.05). Treatment of patients with epilepsy of children with valproic acid caused less pronounced changes in antioxidant status: against the background of almost complete lack of influence on catalase activity and an unreliable decrease in the level of ceruloplasmin and vitamin E by an average of 3% relative to control, the use of valproates led to a significant increase in lipid hydroperoxides by 9.8% and diene conjugates by 5.6%.

Conclusion
Evaluation of antioxidant status in children with epilepsy indicates the prooxidant effect of the drug carbamazepine, superior to valproic acid in the main parameters, which emphasizes the feasibility of including drugs with antioxidant activity in the complex therapy of epilepsy.

References:
OXIDATIVE STRESS AND ITS CORRECTION BY PHYTOADAPTOGENS

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Abstract
Modern environmental conditions dramatically increased the level radiculopathic processes in the body. Prooxidant factors exposure induces the development of critical condition accompanied by exhaustion of energy and other reserves, reduction of tissue metabolism, forming proliferative and dystrophic disorders in all organs. In experimental conditions the possibility to correct free radical lipid oxidation of rats' organism membranes was studied with the oral introduction of the phytoadaptogens that contains the complex of natural antioxidants. The application of the phytoadaptogens in the conditions of oxidative stress induced by the influence of ultraviolet rays leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

Key words: phytoadaptogens, oxidative stress, ultraviolet radiation, rats.

Increasing the body's resistance to stress factors is an urgent task of modern medical science. In solving this problem of great importance is the expansion of the evidence base of the effectiveness of plant-based adaptogenic agents. Advantages of means of natural origin before synthetic consist that they represent complexes of biologically active substances close by the nature to endogenous bioregulatory connections thanks to what render adequate corrective action on a functional state of an organism at different levels of its biological organization; possess a wide range of activity and polyvalence of medical action; are characterized by gradual increase in effect, low toxicity and lack of adverse reactions at long application.

Objective
To study of antioxidant and actoprotective activity of phytoadaptogens in comparative aspect under oxidative stress in experiment.

Materials and methods
The animals were divided into 4 groups and each of them had 10 rats: intact animals (1) which were held in standard conditions of vivarium; the control group (2) in which rats were exposed to ultraviolet radiation during three minutes daily; the experimental groups (3, 4) in which before ultraviolet radiation animals had a daily oral intake of the extract leuzea, of the extract.
eleutherooccus in a dose of 1 ml/kg. The intensity of peroxidation processes was assessed by examining the contents of hydroperoxides lipids, diene conjugates, malonic dialdehyde and the main components of the antioxidant system, (ceruloplasmin, vitamin E) in the in the blood of animals.

**Results and discussion**

It is established that daily ultraviolet radiation during three minutes contributes to the decrease of rats’ organism stability to physical activities, to the increase of lipid hydroperoxides level by 52%, of diene conjugate by 59%, and of malonic dialdehyde by 46% against the decrease of antioxidant system activity in the blood of intact animals. The introduction of the phytoadaptoptogens to rats in the conditions of oxidative stress contributes to the increase of the duration of rats swimming by 16 - 22% in 7 days of the experiment results, to the reliable decrease in the blood of lipid hydroperoxides by 24 - 33%, of diene conjugates by 19 - 29%, malonic dialdehyde by 21 - 29% in comparison with the rats of the control group. While analyzing the effect of the phytoadaptoptogens on the activity of the components of antioxidant system it was shown that the level of ceruloplasmin in the blood of animals was reliably higher by 30 – 35%, of vitamin E by 15 - 24% in comparison with the same parameters of the rats of the control group.

Thus, the application of the mentioned phytoadaptoptogens in the conditions of oxidative stress induced by the influence of ultraviolet rays leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

**References**


ANALYSIS OF MEDICAL PATIENTS HISTORIES WITH THROMBOEMBOLISM OF PULMONARY ARTERY FOR THE SECOND PART OF 2018 ACCORDING TO THE DATA OF THE REGIONAL VASCULAR CENTER

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Abstract
The indices of diagnostic data, which are typical to this disease, criterions of risk factors and age of patients have been analyzed. Probability of TEPA origin is determined on the base of the analyses of the number of the diseased people, successful diagnostic data and also on the interaction character of this pathology with other risk factors. The necessity in the prophylactic measures on different stages of therapy of this disease is also detected.

Key words: risk factors, thromboembolism of pulmonary artery, clinical picture, methods of examinations, thrombolytic therapy.

Medical case histories of in-patients of cardiological department of Regional Vascular Center (RVC) with diagnose of thromboembolism of pulmonary artery (TEPA) were analyzed for the second part of 2018. The whole number of patients included 10 people: 50% of men and 50% of women. The age of patients was from 28 up to 73 years old. The average age was 52 years old (2.2 year). Patients were hospitalized on the 1-st – 10-th day of the development of clinical picture of TEPA, at once after addressing for medical help. 4 patients (40% of cases) were hospitalized from the region, 1 patient (10% of cases) was directed from another department (TSD); acute TEPA was diagnosed in the in-patient department in addressing of the patient to hospital with other symptom: 1 patient (10% of cases); 1 patient (10% of cases) was admitted to the Amur Regional Clinical Hospital by ambulance; 3 patients (30% of cases) turned to the ARCH for help and they were hospitalized.

All 10 patients had risk factors of TEPA: chronic and acute disease of cardio-vascular system – 7 patients (70% of cases); malignant tumors – 2 patients (20% of cases); bone fractures – 2 patients (20% of cases); peripheral thrombophlebitis – 1 patient (1% of cases); atrium fibrillation – 1 patient (10% of cases); long immobilization – 1 patient (10% of cases); surgical intervention – 1 patient (10% of cases).

Clinical picture was different. There were observed: cyanosis of skin and mucous membrane – 8 patients (80% of cases); short breath – 8 patients (80% of cases); pain in the chest – 7 patients (70% of cases); cough – 6 patients (60% of cases); hemoptysis – 4 patients (40% of cases); wheezes in lungs in auscultation – 4 patients (40% of cases); high body temperature – 3 patients (30% of cases); tachycardia – 3 patients (30% of cases); sharp decrease of arterial blood pressure – 1 patient (10% of cases).

Objective
The aim of this article is to analyze the cases of thromboembolism of pulmonary artery (TEPA) for the second part of 2018 according to the PVC.

Materials and methods
Patients were examined in cardiological department. There were used additional methods of examination: clinical analysis of blood in 10 cases was without pathological changes. D-dimer blood investigation was performed in all cases (average index was 6023ng/ml (1329 ng/ml) which was increase in 10 patients (100% of cases) and it was in 25 times higher normal one (243 ng/ml). There were observed changes in cardiology: bundle right crus of His block – 3 patients (30% of case); violetion of heart rhythm on the fibrillation type (atria fibrillation) – 1 patient (10% of cases). Symptoms of pulmonary hypertention were revealed by echocardiography in 7 patients (70% of cases). The cause of TEPA (thromb in vein) of the peripheral veins was detected in 10 patients (
100% of cases) by the USV. Angiopulmography is the “golden standard” in TEPA diagnostic, because it allows exactly to determine the localization and size of thromb.

To make a correct diagnose it is necessary to reveal the sudden break of the bunch of pulmonary artery and thromb contour. It was performed in 10 patients (100% of cases); all of them had specific affection.

Results and discussion

Underwent therapy: hemodynamic stabilization, oxygenotherapy were performed to all patients. Therapy by anticoagulants was administrated to all TEPA patients. One patient (10% of cases) had thrombolytic therapy, other patients had contra-indications to thrombolysis because of ulcers of gastrointestinal tract, post-operative period, tumor affections of CNS and also because of the later address for medical help. Surgical treatment (thromboembolectomy) was carried on to one patient (10% of cases). There were no lethal cases of this disease (0% of cases). 10 patients (10% of cases) were discharged from the clinic to continue their treatment in local hospital. There were recommended to continue anticoagulant therapy.

Conclusions

It is more purposeful the initial prophylaxis of TEPA, which had complex of measures to prevent venous thrombosis in the system of low hollow vein.

Administration of anticoagulant drugs is necessary to all patients with atrial fibrillation (flutter).

Non-specific (physical) measures should be used by all in-patients: shortening the length of bed-regimen, maximum earliest activity of patients including exercise therapy in post-operative period.

The use of low molecular weight heparin by the patients with high risk of post-operative venous thrombosis is also recommended.

References


OBSERVATION OF PATIENTS, OBTAINING DIFFERENT TYPES OF REPLACEMENT RENAL THERAPY IN THE CONDITIONS OF AMUR REGIONAL CLINICAL HOSPITAL IN BLAGOEVSHCHENSK

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Abstract

The analysis of data on patients with a renal transplant in the AOKB of Blagoveshchensk is presented in this paper. The main causes of TCRD (terminal chronic renal failure) and kidney transplantation have been established. The analysis of the survival of renal transplant recipients in relation to patients receiving dialysis replacement therapy was performed. It is noted that in the Far East, ATP (allogeneic transplanted kidney) allows rendering assistance to patients from remote areas, where other types of RRT (renal replacement therapy) are impossible.

Chronic kidney disease has a special place among chronic non-communicable diseases because it is widespread, leads to deteriorating quality of life, has high mortality rate and there is a need to use expensive methods of renal replacement therapy in the terminal stage. The paper
describes analysis of the patients who received different methods of renal replacement therapy in the Amur Regional Clinical Hospital. Survival rates of patients, who received different methods of renal replacement therapy and recipients, who had organ transplantation, were analyzed.

**Key words:** transplantation, chronic renal failure, donor.

**Objective**
Comparison of long-term results in treatment by program hemodialysis (PHD), peritoneal dialysis (PD) and kidney transplantation in patients with end-stage renal disease.

**Materials and methods**
Under observation were 70 patients with different stages of CKD (chronic kidney disease): 4 of them had III stage of CKD - 5.7%; 7 - IV stage of CKD, which accounted for 10% of the total number of patients studied. 84.3%, the most number of patients with CKD, had V stage of CKD. There were 46 men - this makes up 65.7% of the total number of patients, and 34.3% of women among patients with CKD. The average age of patients was 46.5, this means that mainly people from the working-class population suffer from this disease.

**Results and discussion**
As a result of the work, there were formed 4 groups of patients with CKD: indicated for the first time-27 people (which is 38.6%), consisting on hemodialysis for 2 years - 18.6%, for 3 years - 12.9%, and also for 5 years or more - 30% of patients, respectively. In these groups, there is a gradual decrease in the level of urea, creatinine in comparison with the previous year, under the influence of the therapy. In all groups of patients, anemia was observed, as a complication that manifested itself even in the early stages of CKD, increasing with its progression. It has been proven that anemia is associated with CKD progression (lower hematocrit below 40% for men and 35% for women increases the risk of developing the terminal stage of chronic kidney disease), is associated with the development of cardiovascular complications, both in the initial stages of CKD and during the development of the terminal stage 46% and the development of heart failure by 28%, and also occurs in patients after kidney transplantation. The effectiveness of various dialysis methods affects the quality and longevity of a patient with end-stage kidney disease.

Kidney transplantation is the only radical method of treating end-stage chronic renal failure that provides the best long-term results compared with dialysis, and in particular the highest survival rates of patients and their quality of life, with the lowest treatment costs. A kidney transplant is indicated in patients with end-stage renal disease, a condition requiring continuous renal replacement therapy — dialysis (hemodialysis or peritoneal dialysis).

As a result of the dynamic observation of patients after kidney transplantation in the conditions of the Amur Regional Clinical Hospital, the following indicators were identified. For the period from 1996 up to 2018, allotransplantation of the kidney was performed in 47 patients (Moscow, Kemerovo). At the same time, 43 people are alive. Chronic glomerulonephritis as a cause of TCRD had 79% of patients, hypoplasia of both kidneys - 5%, other kidney abnormalities - 5%, SLE (systemic lupus erythematosus) in 2%. Analysis of the data indicates that 29% of patients were men, 71% were women. The average age of patients is 43 years old. The survival rates of patients with a transplanted kidney averaged 12 years. The causes of death in patients in 2018 were infectious complications (pneumonia), cancer and other causes. The survival rate of kidney transplant recipients at all follow-up periods was significantly higher than in patients receiving dialysis replacement therapy, and after 5 years it was 85% against 43% in patients receiving peritoneal dialysis and 57% in programmed hemodialysis. As in the group of dialysis patients, the prognostically unfavorable factor was the age of the patients at the time of surgery. The five-year survival rate of renal transplant recipients in the group of patients younger than 50 years old was 85% (24 cases), while in recipients of the older age group, this figure decreased to 73%. Survival rate in patients with TK in both age groups was significantly higher than in dialysis patients at the same time. The data in the Amur region for 2018 show that the number of patients treated with kidney transplantation was 6.87 per 100 thousand of the population, and dialysis (hemodialysis, peritoneal) - 21.7 per 100 thousand of the population. In comparison with the all-Russian figures for
2018, which account for patients with a transplanted kidney - 5.8 per 100 thousand of the people on dialysis - 24.5 per 100 thousand of the population.

Analysis of the effectiveness of different types of dialysis therapy in general did not reveal differences in the long-term results of treatment. Over the past 5 years, the survival rate was 76.9% for HD, 8.98% for PD, and 2.3% for TK. Patients who survived 10 years of renal therapy on PD amounted to 9.2%, HD - 12.5%, TK - 13.04%.

In the Far East, ATP allows rendering assistance to patients from remote areas, where other types of RRT are impossible. From the point of view of the organization of medical care, kidney transplantation has been recognized as the best method of renal replacement therapy for residents of low-density regions, as well as the population of small towns and villages. This approach is one of the most rational, given the medical, social and economic benefits of kidney transplantation over dialysis.

References

FUNCTIONAL FOODS FROM SOY BEANS AND PUMPKIN

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Abstract
The article presents the results of studies of the chemical composition of soybean and its products for functional nutrition. It was established that the combined products from soybeans and pumpkins have a significantly higher content of phosphatides, vitamin E and carotenes, which makes it possible to recommend them as functional products for the prevention and treatment of diseases associated with the activation of free radical oxidation processes.

Key words: words: soy, pumpkin, protein, oil, phospholipids, vitamin E, carotenes

Antioxidant-rich products from soy are used as agents for the prevention and treatment of a number of diseases [1] and therefore can be considered as functional products. Vitamin E (alpha-tocopherol) is the main antioxidant of soy [2]. Other lipophilic antioxidants present in many plants, and in particular in pumpkin, are carotenes in significant quantities [3], but their content in soybeans is not enough [2].

Objective
The purpose of the study was the creation of carotene-rich functional products from soybeans and pumpkins and the study of their chemical composition.

Materials and methods
In this work, the soybean of the early-ripening variety “Karushevnitsa” of the selection of the All-Union Scientific Research Institute of Soybean, Blagoveshchensk and the pumpkin of the variety “Nadezhda” of the selection of Far-Eastern Research Institute of Agriculture, Khabarovsk were used. Soy milk was obtained by water extraction from swollen and chopped soybeans, and soy-pumpkin drink from a mixture of soybeans and pumpkins. To obtain soy pumpkin dessert, ascorbic acid was added to the specified drink. After condensation, the serum was separated from the porridge mass, which was crushed to a pasty state [4]. In the investigated products, the humidity was determined by the method of drying at a temperature of 100-105 ° C to constant weight. The protein content in the studied products was determined by the biuret method [5]. Lipids were
extracted according to the method of Bligh-Dyer [6]. The oil content was determined by weighing on an analytical balance of one stripped off lipid extracts. One stripped off extracts from 0.4 g of ground soybeans, 1 ml of soy milk and soy-pumpkin drink and 1 soy-pumpkin dessert was dissolved in 3 ml of hexane and the content of phospholipids was determined by inorganic phosphorus [4], vitamin E by color reaction with Fe$^{3+}$ ions and dipyridyl [7], a carotene formula of 190-600 nm in wavelength scan measurement mode [8]. The content of carotenes was calculated by the absorption maximum at 445 nm, characteristic of beta-carotene, using an absorption coefficient of 1% beta-carotene solution of 2620 units of optical density [3].

**Results and discussion**

The table shows the results of the analysis of the investigated products. The moisture content and chemical composition of the soybean sample studied did not have significant differences compared to other soybean varieties. In terms of dry weight in soybean milk, compared with soybeans, there was a higher content of protein and phosphatides, but a lower content of oil and vitamin E, which is understandable with regard to the technology for the production of soybean milk, which is an aqueous extract of ground soybeans. Carotenes in soy milk were not determined due to extremely low content. In the combined soy-pumpkin drink compared to soy milk, based on dry weight, there was a slightly lower content of protein, oil and vitamin E, but the content of phosphatides in it was 3 times higher and carotenes were present in large quantities. The latter was also characteristic of soy-pumpkin dessert. In terms of wet weight, this product was characterized by the highest content of all determined by the component.

**Table.** Physico-chemical properties and composition of soybeans and functional foods studied

<table>
<thead>
<tr>
<th>Foods</th>
<th>Soybeans</th>
<th>Soy milk</th>
<th>Soya-pumpkin drink</th>
<th>Soya-pumpkin dessert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity (%)</td>
<td>6,3</td>
<td>96,9</td>
<td>95,3</td>
<td>79,3</td>
</tr>
<tr>
<td>Protein (mg/g wet weight)</td>
<td>332</td>
<td>12</td>
<td>13,4</td>
<td>57,5</td>
</tr>
<tr>
<td>Protein (mg/g dry weight)</td>
<td>354</td>
<td>387</td>
<td>285</td>
<td>278</td>
</tr>
<tr>
<td>Oil (mg/g wet weight)</td>
<td>169</td>
<td>8,6</td>
<td>10,5</td>
<td>58,5</td>
</tr>
<tr>
<td>Oil (mg/g dry weight)</td>
<td>180</td>
<td>277</td>
<td>223</td>
<td>283</td>
</tr>
<tr>
<td>Phosphatides (mg/g wet weight)</td>
<td>7</td>
<td>0,56</td>
<td>2,4</td>
<td>3,34</td>
</tr>
<tr>
<td>Phosphatides (mg/g dry weight)</td>
<td>7,5</td>
<td>18,1</td>
<td>51,1</td>
<td>16,1</td>
</tr>
<tr>
<td>Vitamin E (mg/g wet weight)</td>
<td>0,315</td>
<td>0,061</td>
<td>0,067</td>
<td>0,286</td>
</tr>
<tr>
<td>Vitamin E (mg/g dry weight)</td>
<td>0,336</td>
<td>1,97</td>
<td>1,42</td>
<td>1,39</td>
</tr>
<tr>
<td>Carotenes (mg/kg wet weight)</td>
<td>10,2</td>
<td>-</td>
<td>9,58</td>
<td>28,6</td>
</tr>
<tr>
<td>Carotenes (mg/kg dry weight)</td>
<td>10,9</td>
<td>204</td>
<td>138</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion**

Soy-pumpkin drink and soy-pumpkin dessert are products with a maximum content of phosphatides, vitamin E and carotenes, which allows us to recommend them as functional products for the prevention and treatment of diseases associated with the activation of free radical oxidation processes.

**References:**


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EFFECT OF ACUPUNCTURE ON ANGIOGENIC GROWTH FACTORS AND UTERINE HEMODYNAMICS IN WOMEN WITH A HISTORY OF PRIMARY OLIGOMENORRHEA

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Abstract

80 women with a history of primary oligomenorrhea (the study group) were examined. The control group consisted of 40 women with the correct menstrual rhythm and full luteal phase of the menstrual cycle. The state of angiogenesis and uterine hemodynamics were studied. The initial concentration of vascular endothelial growth factor (VEGF-A) in women with a history of primary oligomenorrhea is 2 times less than in the control group. In the women of the study group, the initial values of the resistance index in the uterine arteries are higher than in the control group. After treatment with acupuncture, a significant correlation between the concentration of vascular endothelial growth factor and the value of the resistance index in the uterine arteries was established.

Key words: primary oligomenorrhea in history, luteal phase insufficiency, acupuncture, gestagens.

Women who had a history of primary oligomenorrhea and established the correct rhythm of menstruation had infertility and pregnancy complications [2]. In reproductive growth, these women often experience luteal phase insufficiency of the menstrual cycle [1].

In experimental studies, it was shown that acupuncture can improve endometrial angiogenesis by regulating the number and role of uterine dendritic cells [4].

Objective

To study the effect of acupuncture on angiogenic growth factors and uterine hemodynamics in women with a history of primary oligomenorrhea.

Materials and methods

The study involved 80 women. Among them, 40 had a history of primary oligomenorrhea (the study group) and 40 had a correct menstrual rhythm and a full luteal phase of the menstrual cycle (control group). Acupuncture was conducted according to our patented method [3].

Concentrations of vascular endothelial growth factor A (VEGF-A), tyrosine kinase receptor 1 of vascular endothelial growth factor (sVEGFR1) in serum were determined by ELISA.

Ultrasound examination with doppler of the uterine arteries was carried out in the late stage of the endometrial proliferation phase (11-12 days of the menstrual cycle) and in the middle stage of the endometrial secretion phase (20-22 days of the menstrual cycle) before treatment (initial) and
one month after the end of treatment. Vascular resistance was estimated by the value of the resistance index (RI).

Statistical data processing was carried out using the statistical software package Microsoft Excel 2010, "Statistica 10.0".

Results and discussion

The initial concentration of VEGF-A (120.97±243.64 against 243.64±27.98 PG/ml; p<0.001) and sVEGFR1 (142.48±16.72 against 205.38±20.12 PG/ml; p<0.01), the angiogenic ratio (0.88±0.13 vs 1.24±0.14; p<0.01) in women of the study group were lower in comparison with the control group. That showed an angiogenic imbalance in women with primary oligomenorrhea in history.

After treatment, VEGF-A concentrations (234.42±27.81 PG/ml), sVEGFR1 (195.49±15.17 PG/ml) and angiogenic ratio (1.22±0.17) were significantly higher in women of the study groups compared to the initial and did not differ from the control group.

In patients who received acupuncture, a doppler study of hemodynamics in the uterine arteries in the late stage of the endometrial proliferation phase revealed an initial increase in the mean value of RI in the uterine arteries (0.86±0.01) in comparison with the control group (0.84±0.01; p<0.05). After treatment, the average value of RI in uterine arteries in women of the study group (0.85±0.01) did not differ from the control group, which indicated an improvement in hemodynamics in the uterine arteries after treatment with acupuncture.

In the middle stage of the endometrial secretion phase, the initial mean value of RI in the uterine arteries in women of the study group (0.84±0.01) was significantly higher in comparison with the control group (0.80±0.01; p<0.01). After treatment, the mean value of RI in uterine arteries in women receiving acupuncture was significantly lower than the baseline (0.80±0.01; p<0.001) and did not differ from the average value of the control group RI, which indicated the formation of low-resistant blood flow as a result of treatment.

In the study of intersystem relationships between the baseline VEGF-A, sVEGFR1 and the value of RI in the uterine arteries in women of the study group (r= -0.758 for VEGF-A; r= -0.709 for sVEGFR1; p<0.05) and the study groups (r= -0.869 for VEGF-A; r= -0.777 for sVEGFR1), a strong inverse correlation was established. After treatment with acupuncture, the inverse correlation remained strong (r= -0.856 for VEGF-A; r= -0.752 for sVEGFR1; p<0.05).

Conclusions

When using acupuncture and gestagens in women with a history of primary oligomenorrhea, there was a significant increase in the concentration of angiogenic growth factors and a decrease in RI in the uterine arteries in comparison with the baseline.

Reduction of RI values and improvement of hemodynamics in uterine arteries in the application of acupuncture is due to increased angiogenesis.

Financing

The study was supported by a grant from the President of the Russian Federation for state support of young Russian scientists in 2018 (MD–4758.2018.7).

References


CORRELATION OF HEMODYNAMIC PARAMETERS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITH METABOLIC SYNDROME COMPONENTS

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Abstract
The article in hand reviews the study of patterns of carotid artery hemodynamics in patients with chronic obstructive pulmonary disease (COPD) with comorbidities and abdominal obesity. It has been established that the increase in the carotid intimal medial thickness of the common carotid arteries in patients with COPD with comorbidities and abdominal obesity is an independent risk factor for cardiovascular disasters and the progression of cardiovascular pathology. Early diagnostics and correction of changes in hemodynamics in the carotid arteries and metabolic disorders will allow timely prevention of adverse consequences of vascular complications of this comorbid pathology.

Key words: carotid arteries, abdominal obesity.

Chronic obstructive pulmonary disease (COPD) is an urgent problem in modern healthcare. According to the World Health Organization, COPD ranks 4-th among the causes of death of the global population. There is a high prevalence of COPD in persons older than 50 years [1, 2]. Patients with COPD more often die from cardiovascular diseases, which is indicative of the important role the vascular accidents play in the pathogenesis of mortal exacerbations of COPD [1]. Among the numerous comorbidities of COPD, cardiovascular pathology, abdominal obesity and dyslipidemia are currently researched [2]. An increase in the prevalence of abdominal obesity among patients with COPD may be due to a decrease in physical activity, a smoking habit or progressing insulin resistance [1].

The study of hemodynamics of great vessels in patients with COPD associated with abdominal obesity will contribute to the improvement of methods of prevention and treatment of complications of this pathology.

Objective
To determine the effect of abdominal obesity components on changes in carotid arteries hemodynamics in patients with COPD and to assess their correlation to insulin resistance, lipid profile, and anthropometric data.

Materials and methods
This comprehensive study included 68 patients aged 38 to 67 years with the moderate COPD. The body mass index (BMI) of the patients was 38.35±2.81 kg/m². The average waist circumference in men was 108.4±4.91 cm, in women - 104.7±4.85 cm. The waist-to-hip ratio in men was 1.13±0.06, in women - 1.08±0.04. 25 patients (36.7%) were diagnosed with abdominal obesity class I, 21 patients (30.9%) - with abdominal obesity class II, 22 patients (32.4%) - with abdominal obesity class III. The control group included 25 COPD patients (13 men and 12 women) with a BMI of 18.5-24.9 kg/m², whose age and gender characteristics were comparable to those of the study group on. The values of total cholesterol, low-density lipoprotein cholesterol (LDL), high-density lipoprotein cholesterol (HDL) and cholesterol of triglycerides (TG) were determined. The smoking index was calculated as follows: the number of cigarettes smoked per day x smoking history (years)/20. The hemodynamic indices of carotid arteries were studied by means of ultrasonic duplex scanning of common carotid arteries, internal carotid arteries and external carotid arteries using the Mindray DC-6 machine. The intima-media complex thickness in the right and left common carotid arteries (CCA CIMT) was established as an atherosclerotic marker.

Results and discussion
The systolic blood pressure in COPD patients with comorbidities and abdominal obesity was 162.7±11.4 mm Hg, the diastolic pressure - 98.5±7.2 mm Hg. Arterial hypertension (AH) class
I was detected in 12 patients (17.6%), AH class II - in 7 patients (10.3%), AH class III - in 9 patients (13.2%). Aggravated hereditary history of diabetes mellitus was found in 19 patients (27.9%). The total serum cholesterol in the experimental group was 6.3±0.7 mmol/l (4.4±0.7 mmol/l in the control group, p<0.05). The TG value was 2.5±0.9 mmol/l (1.23±0.05 mmol/l in the control group, p<0.05), LDL - 3.3±0.09 mmol/l (2.3±0.07 mmol/l in the control group, p<0.05), HDL - 1.7±0.05 mmol/l (1.6±0.05 mmol/l in the control group, p>0.05). The atherogenic index amounted to 4.9±0.14 (3.3±0.12 in the control group, p<0.05). The smoking index in COPD patients was 44.3±19.4 pack-years, in COPD patients with comorbidities - 54.3±27.5 pack-years. The CIMT of the right and left common carotid arteries in patients with comorbid COPD was 1.04±0.02 mm and 1.12±0.05 mm, respectively. It is interesting to note that in the case of COPD with comorbidities there is a more pronounced increase in the resistance index of the carotid arteries. Moreover, at the level of the right and left internal carotid arteries, this index amounted to 0.82±0.07 mm and 0.84±0.09 mm, and at the level of the right and left external carotid arteries the respective values were 0.92±0.03 mm and 0.94±0.05 mm. A more pronounced value of the intima-media complex thickness of the common carotid arteries in the presence of hypertension and the comorbid course of COPD, along with an increase in the resistance index of carotid arteries, can be explained by the effect of high blood pressure which stretches the arterial wall. This process is further aggravated by atherosclerosis. The study of correlations in the comorbid course of COPD allowed to discover positive interrelations in between the insulin resistance index, the intima-media complex thickness of the common carotid arteries and the level of TG (r=0.92, p<0.01 and r=0.83; p<0.05, respectively). Those constitute a hemodynamic sign of atherosclerotic vascular disease in patients with comorbid COPD and abdominal obesity.

Conclusions
Thus, early diagnosis of hemodynamic disorders via ultrasound duplex scanning of the carotid arteries and a comprehensive approach to correction of hemodynamic parameters, insulin resistance and metabolic changes associated with COPD and abdominal obesity, can contribute to the improvement of endothelial function and, consequently, the elimination of risks of development and progression of the cardiovascular catastrophes in patients with the given comorbid pathology.

References

ESTIMATION OF FATTY TISSUE VOLUME BY RADIOLOGICAL AND ANTHROPOMETRIC METHODS IN PATIENTS WITH METABOLIC SYNDROME

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Abstract
Currently, metabolic syndrome is a serious problem of modern health care, being one of the important factors for the development and progression of cardiovascular disease. Fat tissue volume was estimated using anthropometric computed tomography techniques. The study found that the study of visceral adipose tissue using computed tomography allows you to reliably determine the type of obesity and timely track the dynamics of the treatment of metabolic syndrome.

Key words: metabolic syndrome, computed tomography, body mass index.
Currently, abdominal obesity, arterial hypertension, dyslipidemia and carbohydrate disorders - the main components of the metabolic syndrome are a global problem of modern healthcare, being one of the main risk factors for the development and progression of cardiovascular diseases [1, 2]. In addition to the total fat mass, the distribution of adipose tissue in the body is of great importance. The highest risk of developing vascular accidents is in people with abdominal obesity. In the abdominal adipose tissue, there are two types: visceral and subcutaneous adipose tissue. Visceral adipose tissue has the most pronounced metabolic activity. Adipokines secreted by visceral adipose tissue cause active formation of pro-inflammatory mediators. Produced free fatty acids contribute to the development of insulin resistance.

**Objective**

To study the amount of adipose tissue by radiation and anthropometric methods, depending on the degree of distribution of fat and its relationship with the components of the metabolic syndrome.

**Materials and methods**

This comprehensive study included 56 patients with metabolic syndrome (35 men and 21 women) aged 38 to 67 years (the experimental group). Metabolic syndrome was diagnosed on the basis of criteria developed by the International Diabetes Federation. The body mass index of the patients was 36.31±2.71 kg/m². The average waist circumference in men was 107.3±6.12 cm, in women - 104.8±5.14 cm. The waist-to-hip ratio in men was 1.11±0.06, in women - 1.07±0.04. 21 patients (37.5%) were diagnosed with Class I obesity, 18 patients (32.1%) - with Class II obesity, 17 patients (30.4%) - with Class III obesity. Arterial hypertension was detected in 37 patients (66.1%). The average systolic blood pressure was 176.3±4.7 mm Hg, the average diastolic pressure was 102.6±2.3 mm Hg. 12 patients (21.4%) had macrovascular complications (acute myocardial infarction, acute cerebrovascular accident) in anamneses. Carbohydrate metabolism disorder was discovered in 48 patients with metabolic syndrome: 24 patients (42.9%) had diabetes mellitus, 6 patients (10.7%) demonstrated impaired fasting glucose, 18 patients (14.3%) - impaired fasting glyceremia. The average fasting glyceremia level was 10.54±2.25 mmol/l, the average postprandial glyceremia level - 12.74±2.58 mmol/l. Glycated hemoglobin A1C was 8.54±2.46%.

Insulin resistance was studied by calculating the insulin resistance index as per the HOMA criterion (Homeostasis Model Assessment) - in the control group, this value did not exceed 2.77. Patients with alcoholic liver disease, nonalcoholic steatohepatitis, viral hepatitis, autoimmune hepatitis, and hemochromatosis were not included in the examination. The control group included 39 healthy persons with a body mass index of 18.5-24.9 kg/m², whose age and gender characteristics were comparable to those of the study group.

To determine immunoreactive insulin and leptin levels in patients, the immunoenzyme method was applied. Glycated hemoglobin A1C was measured by affinity chromatography involving the use of microcolumns and standard «Diabet-test» kits. The following indicators were analyzed: total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, triglycerides, aspartate aminotransferase and alanine aminotransferase, alkaline phosphatase, gamma-glutamyltransferase, data of liver ultrasound scans.

**Results and discussion**

A significant increase in the insulin resistance index to 6.25±1.24 compared with the control (2.1±1.09, p <0.01) was found in 96.4% of patients in the experimental group. In 98.2% of the examined patients in the experimental group, an increase in leptin to 29.64±3.84 ng/ml (p <0.05) was observed compared with the control group (25.62±3.41 ng/ml). The indicator of body fat mass in patients with grade 3 obesity was 36.21±7.62% (in the control group - 16.24±4.59%, p <0.05). During computed tomography, the indicator of the thickness of subcutaneous fat was significantly increased in patients with grade 3 obesity to 28.4±6.24 mm (in the control group - 12.16±3.12 mm, p <0.05), visceral fat thickness was significantly up to 43.7±9.61 mm (in the control group - 17.84±4.86 mm, p <0.01).
The atherogenic index was 4.8±0.14 (in the control group - 3.1±0.12, p <0.05). In patients with abdominal obesity up to 7.24±1.08 as compared to the control group (2.1±0.73, p <0.05). According to ultrasound examination of the liver, 55 patients had hepatomegaly, 56 patients had hyperechogenicity of the liver parenchyma. When analyzing interrelations, more pronounced correlation coefficients were obtained between visceral adipose tissue thickness and leptin levels, insulin resistance index (respectively: r = + 0.76; p <0.01 and r = + 0.78; p <0.001) and between the level of triglycerides and the thickness of the subcutaneous fat (respectively: r = + 0.73; p <0.001 and r = + 0.75; p <0.001).

Thus, the level of insulin resistance determines the degree of development of visceral tissue, determined by computed tomography, which allows to reliably control the dynamics of the distribution of adipose tissue during therapeutic interventions.

References

USING THE METHOD OF INDUCED SPUTUM IN THE STUDY OF MORPHOFUNCTIONAL CHARACTERISTICS OF LARGE METAPLASED CELLS WITH CHRONIC OBSTRUCTIVE DISEASE OF LUNG

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Abstract
Non-invasive methods for obtaining material for research allow you to conduct research multiple times. Bronchial secretion obtained by inducing sputum refers to such methods. Induced sputum reflects the processes occurring in the bronchi, can be used to study the morphofunctional characteristics of the mucous membrane of the airways in chronic obstructive pulmonary disease. The solution of the problems underlying the present study will contribute to a better understanding of the pathogenetic features of the respiratory tract reaction of patients with chronic obstructive pulmonary disease.

Key words: Induced sputum, large metaplastic cells of the mucous membrane of the airways, chronic obstructive pulmonary disease.

The study of the cellular composition of the tracheal mucosa and components of induced sputum in chronic inflammatory lung diseases is extremely important for the study of the early stages of their development [1-6]. These questions require further study.

Materials and methods
The study of induced sputum was conducted by sequential inhalation of 3%, 4% and 5% sodium chloride solution through an ultrasonic nebulizer (OMRON, Japan) for 5 min sessions under the control of respiratory function in 50 patients with chronic obstructive pulmonary disease in the clinic Far Eastern Scientific Center of the physiology and pathology of respiration (dncfpd@dncfpd.ru). The control group consisted of 15 healthy individuals.

Results and discussion
The earliest signs of morphological restructuring of the bronchial epithelium detected in patients with 2–3 stages of chronic obstructive pulmonary disease were changes in the ciliary and goblet cells providing mucociliary clearance, characterized by loss of cilia and an increase in the volume of goblet cells. In patients at stages 3-4 of chronic obstructive pulmonary disease who had an endoscopic picture of diffuse endobronchitis, morphological examination of biopsy specimens
determined epithelial desquamation. As the progression of the chronic process progressed, the patients gradually changed the goblet and ciliated cells to cells characteristic of stratified squamous epithelium. The most typical morphological picture in patients at these stages of chronic obstructive pulmonary disease was the transformation of the ciliated epithelium into a stratified squamous cell with foci of significant sclerotic transformations in the submucosa. The completed restructuring of the epithelium into a stratified flat with severe sclerosis of the bronchial submucosa was most characteristic of patients with chronic obstructive pulmonary disease in the chronic course of the disease.

References

ULTRASTRUCTURAL CHARACTERISTICS OF LEUKOCYTES OF PERIPHERAL BLOOD OF RABBITS UNDER EXPOSURE TO COLD LOADS ON THE ORGANISM

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Abstract
The analysis of the histophysiological characteristics of the leukocytes of experimental animals under the influence of low ambient temperature on the body was carried out. Morphofunctional evaluation of rabbit peripheral blood cells was carried out after experimental exposure to low ambient temperature for 3 hours, 10 days, 15 days, 30 days at -30 °C cold. Leukocyte film was obtained by settling blood in a plastic tube at an ambient temperature of +5 °C. The blood formula was studied, ultrastructural characteristics of leukocytes of experimental animals were carried out. It has been established that cold stress has a significant effect on the hemogram indices and ultrastructural characteristics of neutrophilic and eosinophilic segmented leukocytes.

Key words: cold stress, neutrophilic and eosinophilic segmented leukocytes.

Cold stress is the actual problem of the development of medicine in the Amur region and the Far East of Russia [5]. Therefore, experimental evaluation of cytological markers of cold stress is an important area of experimental medicine. The morphological and functional characteristics of bronchoalveolar lavage cells of rats that were subjected to cold stress were studied [2]. A histophysiological evaluation of the peripheral blood erythrocytes of rabbits and rats was carried out after the experimental effects of low ambient temperature on the organism [4]. The morphological parameters of leukocytes during experimental stress are less studied. At the same time, an experimental assessment of the reaction of the blood system is necessary for a fundamental
Materials and methods
The object of the study was albino rabbits of the Chinsila breed. A morphofunctional evaluation of rabbit peripheral blood cells was carried out after experimental exposure to low ambient temperature for 3 hours, 10 days, 15 days, 30 days at −30 °C cold, 3–3 hours daily. To this end, animals were daily placed at the same time for 3 hours in a Fentron climate chamber. Peripheral blood for hemogram analysis was taken from the marginal vein of the rabbit ear. For the ultrastructural analysis of leukocytes, peripheral blood was placed in a medium containing ethylenediaminetetraacetic acid solution (EDTA).

Leukocyte film was obtained by settling blood in a plastic tube at an ambient temperature of +5 °C. After the erythrocytes were deposited on the bottom of the tube, the blood plasma containing leukocytes was separated about red blood. The tube with blood plasma was centrifuged to precipitate leukocytes to the bottom, with the formation of a leukocyte film. First, a glutaraldehyde solution was added to the blood plasma, and then a calcium chloride solution was added to form a fibrin clot that contained white blood cells [3]. The resulting material was prepared for ultrastructural research [1]. Ultrathin sections of the leukocyte film were studied using an electron microscope PM-100.

Results and discussion
In the study of hemogram we found characteristic for stress reaction of the blood system. We found a tendency to leukocytosis, after three hours of the experiment the number of leukocytes increased to 7,7 × 10^3 ± 0.12 in 1 μl (P <0.01), after 10 days of the experiment 8,4 × 10^3 ± 0.13 in 1 μl (P <0,01), which is significantly higher than the control data — 6,8 × 10^3 ± 0.11 in 1 μl; on the 15th day of the experiment, the number of leukocytes decreases to 7,0 × 10^3 ± 0.18 in 1 μl, and on 30 day experiment 6,7 × 10^3 ± 0.13 in 1 μl. The data obtained indicate a significant modulation of the sympathoadrenal and hypothalamic-pituitary-adrenal systems during the cooling of the body.

We have established the informativeness of the ultrastructural analysis of leukocytes during the general cooling of the organism. The addition of calcium cations to the blood plasma at the time of the manufacture of a leukocyte film can improve the detection of lipids in the cytoplasmic membrane and leukocyte compartments. During cold stress, micro-growths are detected on the surface of leukocytes, which indicates the activation of the migration of these cells. In the cytoplasm there is an increased number of primary granules of neutrophilic leukocytes. The polymorphism of primary and secondary granules of neutrophilic leukocytes is noted. Revealed degranulation of eosinophilic leukocytes. In the mitochondria of leukocytes, destruction of the cristae is noted, and a decrease in the electron density of the matrix.

Conclusion
Thus, we have established the informative value of the evaluation of the experimental model of general cooling of the body during the analysis of the reaction of the blood system of rabbits during cold stress for 3 hours, 10 days, 15 days, 30 days at -30 °C cold. In our study, the participation of calcium cations in the formation of membrane electron density during the general cooling of the organism is analyzed. This may indicate a complex ionophore function of calcium cations during experimental exposure.

References
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THE CHANGE OF THE MORPHOLOGICAL STRUCTURE OF THE THYMUS GLAND AND ADRENAL CORTEX IN PREMATURE NEWBORNS WITH PRENATAL INFLUENZA A(H3N2)

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Abstract
The negative influence of somatic and obstetric pathology in women during pregnancy on the formation of the system of “thymus – adrenal cortex” in their offspring is known [1]. At the same time, there is no information in the literature about changes in the structure of the thymus and suprarenal glands in antenatal influenza aggression. In premature infants with prenatal influenza A(H3N2) there is often an increase in the mass of the thymus gland, focal devastation of the cortical layer, leading to the development of T - cell immunodeficiency in postnatal ontogenesis. When prenatal influenza A(H3N2) in premature infants compared with newborns, who have no markers of antenatal infections, there is a decrease in the total mass of the adrenal glands, more often there is detected foci of cytolysis, pronounced full blood, hemorrhages, as well as single adenomatous structures. The latter are considered as one of the markers of adrenal insufficiency.

Key words: Thymus, adrenal cortex, intrauterine influenza.

Objective
The aim of the work was to study the morphological structure of the thymus gland and adrenal cortex in premature infants with intrauterine influenza A (H3N2).

Materials and methods
The morphological structure of the thymus and adrenal cortex was studied in 25 dead preterm neonates with congenital influenza A (H3N2) (study group). The cause of their death was prenatal infection, manifested by pneumonia, hepatitis, vesciculosis, aspiration syndrome, pulmonary atelectasis and edema-hemorrhagic syndrome. Prenatal development in 10 children was complicated by chronic compensated, and in 15 – by chronic subcompensated placental insufficiency. The comparison group was represented by 30 premature newborns who died in early neonatal age from antenatal hypoxia and pneumopathy. Measurement of the mass of the thymus gland and both adrenal glands was carried out with the help of medical scales. Morphological material was fixed in 10% neutral formalin, dehydrated in alcohols and poured into paraffin. For microscopy review histological sections of 5-7 μm thick were stained with hematoxilin and eosin. Collagen fibers were visualized during staining sections of organs across of Van Gieson. When determining the reliability of the differences in the mean values of the compared parameters between different samples, the unpaired student criterion was used, and when comparing the frequencies of the alternative distribution of features, the Fisher (f) criterion was used.

Results and discussion
In premature infants of the main group compared with children of the same age of the comparison group there was an increase in the mass of the thymus gland to 11.2±0.51 grams (in the control - 8.5±0.24 grams, p<0.05). In 7 dead of the main group there was a decrease in body weight up to 3.7 - 4.1 grams. In their thymus there was histologically found a picture of "starry sky", against the background of apoptosis and loss of lymphocytes of the cortical layer of the gland. There were often revealed larger Gassal's calf and their number was increased. At the same time, the processes of disorganization of the general plan of the structure and necrotic changes grew in the Gassal's calf. However, seldom there have been calcification of the Gassal's calf. Pathologically the pockets of delimitation of the cortex, in the medulla - large of Gassal's calf filled with detritus and
erythrocytes attracted attention. There were recorded a marked plethora of the loose interlobular fibrous connective tissue. Macrophages were often found inside the lobules of the thymus and in the interlobular loose fibrous connective tissue. Often there disappeared clear boundaries between the cortex and medulla layers on a background of moderate plethora of vessels under the capsule body, as well as vessels in the interlobular loose fibrous connective tissue. Small clusters of erythrocytes were detected in both the cortical and medulla of the thymus. Prenatal influenza A(H3N2) in premature infants diagnosed on the background of reducing the weight of the adrenal glands up to 3.1±0.12 grams (in the control group and 4.6±0.21 g, p<0.05). The number of collagen fibers in the capsule of suprarenal glands increased. Frequent morphological findings were blood vessels with wall thickening, edema and endothelial desquamation. In the lumen of the capsule vessels there increased the number of lymphocytes. Between the bundles of collagen fibrils, small adenomas consisting of cellular elements resembling the structure of the cells of the glomerular and bundle zones of the adrenal cortex were rarely detected. Among glandulocytes of cortex there increased the number of bright cells and there appeared isolated adenomatosis structure. Large polygonal cells with transparent cytoplasm and small nucleus were clearly visualized. On the background of radially arranged strands of glandulocytes there revealed bundles of collagen fibers, and accumulation of erythrocytes and lymphocytes. Thus, in premature infants with prenatal influenza A(H3N2), compared with children of the comparison group, there is an increase in the mass of the thymus against the background of a decrease in the total mass of the adrenal glands. The decrease in the cortical layer of the thymus gland of T-lymphocytes, the appearance in the cerebral layer of large, detritus-filled with Gassal’s calf against the background of cytolysis, hemorrhages and the proliferation of adenomatous structures in the adrenal cortex, points at antenatal antigenic stimulation of adrenocorticoctyes, leading to a decrease in the hormone-producing function of the endocrine gland [2].

Conclusions
1. In premature infants with prenatal influenza A(H3N2), in contrast to the children of the comparison group, there is often an increase in the mass of the thymus gland, focal devastation of the cortical layer, leading to the development of T-cell immunodeficiency in postnatal ontogenesis.
2. When prenatal influenza A (H3N2) in premature infants compared with newborns, who have no markers of antenatal infections, there is a decrease in the total mass of the adrenal glands, more often there are detected foci of cytolysis, pronounced full blood, hemorrhages, as well as single adenomatous structures. The latter are considered as one of the markers of adrenal insufficiency.

References

IMPROVEMENT OF TECHNOLOGIES OF AN INTENSIFICATION OF PROCESS OF FERMENTATION OF SOY MILK FORMULA

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Abstract
The article presents the results of studying the effect of arabinogalactan extracted from larch Daurskaya on the formation of the properties of the fermented milk product. The optimal dose of introducing arabinogalactan into the composite mixture was determined.
Key words: functional food products, probiotic, prebiotic, arabinogalactan, fermented product.

Objective
Studies were carried out in order to assess the possibility of using arabinogalactan extracted from the larch as a functional ingredient adding probiotic and prebiotic properties, improving traditional technologies, intensifying the process of fermentation of soy milk mixture, improving physical, chemical, and organoleptic properties, and microbiological parameters of the fermented milk product.

Materials and methods
When performing the experimental part of the work, a set of generally accepted and standard methods of research, including physico-chemical, microbiological, biochemical, rheological, was used.

When producing dihydroquercetin from larch, a significant amount of biologically active substances can be obtained as a byproduct. One such biologically active substance is arabinogalactan.

From the middle of the last century domestic and foreign scientists have been studying its structure and properties. Arabinogalactan is found in immunomodulating herbs, but the study of the arabinogalactan extracted from larch is of the greatest interest, since it constitutes a significant part of its biomass. The heartwood of some species of larch comprises up to 35% of arabinogalactan [1, c. 34].

In recent years, the study of the biological activity of arabinogalactan has been intensified. The difference of arabinogalactan from many polysaccharides has been reported in terms of physico-chemical properties such as low viscosity of concentrated aqueous solutions, high solubility in water, resistance to acid environment, thermal and hydrolytic stability, and good dispersing ability. It was found that arabinogalactan has a significant membranotropic and antimicrobial action against certain bacteria as well as immunomodulating property[2, c. 26]. and antimutagenic activity [3, c. 298].

The prebiotic ability is of particular interest in studying the properties of arabinogalactan. The results of studies of foreign and domestic scientists show the effect of larch arabinogalactan as a nutrient medium for Lactobacilli and Bifidobacteria since it is a fermentable fiber.

Arabinogalactan serves as food to beneficial symbiotic bacteria in the colon. In turn it helps to reduce the growth of pathogenic bacteria.

Over the past few years because of its multifunction properties arabinogalactan has been aggressively introduced in the production of dietary supplements and foods. Thanks to the dispersing ability it is relevant to use arabinogalactan in the development of formulas of yogurt, juices, pastries, confectionery, powdered milk, and other foods rich in mineral supplements and vitamin complexes.

Arabinogalactan mixes well with all kinds of food and does not affect the organoleptic properties of the finished product. It is a source of dietary fiber and has a positive impact on the gastrointestinal tract. It can be recommended as a nutraceutical or functional food supplement in the human diet [4, c. 28].

In the course of work the effect of the portion of arabinogalactan extracted from the larch on the formation of qualitative properties of the fermented milk product was investigated, in particular on the dynamics of titratable acidity.

Arabinogalactan is the main part of intracellular wood polysaccharides that performs protective functions and contains bioactive nutrients. In terms of organoleptic parameters arabinogalactan is an amorphous pale cream dry powder with a light almost impalpable pine smell and faint sweet flavor.

In the experiment, five samples of the composite mixture (skimmed milk and soy-based food in the ratio of 70:30) enriched with arabinogalactan in an amount of 0.5 to 2.5% were used. The sample of the mixture without arabinogalactan served as the control.
The mixture was fermented with the starter culture composition YF-L811 (Streptococcus thermophilus, Lactobacillus delbrueckii subsp. bulgaricus) and BB-12 (Bifidobacterium lactis) in the ratio of 1:1. During the fermentation the dynamics of the acid formation of clots depending on the portion of arabinogalactan was investigated. The fermentation was carried out at a temperature of (40 ± 2) °C for 6 hours.

**Results and discussion**

The analysis of the obtained data suggests that as a result of introduction of arabinogalactan in the composite mixture the fermentation time is greatly reduced. It can be associated with an increase in dry matter content in the mixture and the stimulating effect of the introduced polysaccharide on the microflora of starter cultures. It was found that if the portion of arabinogalactan is 0.5, 1.0, 1.5, 2.0, and 2.5% the titratable acidity of samples increases intensively by 4.5%, 11.3%, 17.0%, 20.1%, and 23.0%, respectively, compared to the control sample.

The analysis of organoleptic characteristics of the analyzed samples indicates that the introduction of arabinogalactan has no effect on the taste and smell of the product. All the obtained clots had high quality organoleptic characteristics, i.e., they had taste and smell of sour milk, the soy component was almost not felt, the color was white with a cream tint, they were uniform throughout the mass.

The received results of researches, testify, that the use of arabinogalactan intensifies the fermentation of the composite mixture (skimmed milk and soy-based food in the ratio of 70:30) which accordingly reduces the production cycle of the product. The application rate of 1.5% arabinogalactan in the composite mixture has been found.

The expediency of the use of arabinogalactan in the production of dairy products is proved. Summing up the above, we can conclude that the study of the enrichment of food with components with prebiotic properties is relevant in the field of technology of production of functional foods.

**References**


**FEATURES OF DIAGNOSTICS AND TREATMENT OF HAIRY CELL LEUKEMIA**

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**Abstract**

The paper presents data on the diagnosis and treatment of hairy cell leukemia (HCL) in the Amur Region. Among the 15 patients treated, 14 achieved complete remission. Further relapses are not registered. Death was ascertained in only one patient. It was concluded: hairy cell leukemia is currently a potentially treatable disease; it is necessary to conduct timely, based on modern methods, diagnosis of the disease before the development of serious infectious and hemorrhagic
complications; when conducting a modern therapy of HCL, the prognosis is overwhelmingly favorable.

Key words: Hairy cell leukemia, diagnosis, treatment.

Hairy cell leukemia (HCL) is a chronic B-cell lymphoproliferative disease characterized by the presence of “hairy” lymphocytes in peripheral blood and bone marrow, lymphoid infiltration of the bone marrow and spleen, and bone marrow fibrosis [4]. HCL was first described in 1958 and received its name from the form of abnormal B-lymphocytes with characteristic cytoplasmic protrusions resembling hairs under a microscope. Previously, this disease was considered as a variant of CLL, but was later allocated to an independent nosological form [1, 2, 6]. The frequency of this leukemia is not high (1 - 2% of all leukemias), the average age of onset of the disease is 55 years, the ratio of men and women is 5: 1 [1, 2, 6]. Clinical manifestations are the presence and severity of pancytopenia and related clinical syndromes (anemic, hemorrhagic, infectious complications) and significant splenomegaly (found in 90% of patients) [3, 5]. An enlarged liver is detected in 50% of patients; lymphadenopathy is not characteristic [3, 5]. "Hairy" lymphocytes are found in 90% of cases and are better detected by phase contrast and electron microscopy. In the study of myelogram on the background of small cell marrow, a decrease in the number of granulocytes (up to 15-20%) and lymphocytosis with the presence of "hairy" cells are detected. Often getting a bone marrow aspirate fails due to its fibrosis. More informative in these cases is trephine biopsy, in which pronounced bone marrow fibrosis and lymphoid metaplasia are detected. For diagnostics, the characteristic immunphenotype of tumor cells CD11c, CD19, CD20, CD22, CD25, CD 103, FMC7 and surface immunoglobulin are important. A cytochemical study confirms the diagnosis - a bright diffuse reaction to acid phosphatase, which is not suppressed by sodium tartrate. BRAF V600E mutation in lymphocytes of the blood and bone marrow is found in all patients with HCL.

For a long time, splenectomy was the main treatment for HCL. Significant improvement or normalization of hematologic indices after splenectomy was observed in 70-80% of patients, but in most cases the duration of remission did not exceed two to three years [1, 6]. Modern three-stage therapy using recombinant interferons, purine analogues (cladribine, pentostatin), rituximab (in the absence of remission after the first two stages) leads to a high percentage of remissions and long-term relapse-free survival [3, 5], and therefore, accurate verification of this diagnosis using the above methods is very important.

Objective

The goal of the study was to analyze the diagnosis and treatment of hairy cell leukemia in the hematology department of the Amur Regional Clinical Hospital (AOKB).

Materials and methods

The analysis of case histories and outpatient cards of 15 patients with a diagnosis of hairy cell leukemia, who were treated in the hematology department of AOKB in 2009-2018, was conducted.

Results and discussion

Among these 15 people were 9 men and 6 women. The average age was 53 ± 3.5 years. The youngest patient is 37 years old, the oldest is 69 years old.

Clinical and laboratory manifestations of HCL varied from minimal (and the disease was an accidental finding during the examination) to severe symptoms of splenomegaly and cytopenia. For 7 patients leukopenia with neutropenia, anemia and thrombocytopenia were characteristic. Six had anemia, thrombocytopenia, but the number of leukocytes was within the normal range. In 2 cases, leukocytosis was diagnosed. In 14 cases, the patients' blood showed characteristic hairy lymphocytes, their number varied, from 20 to 100%. Further diagnosis was confirmed by immunotyping of lymphocytes of peripheral blood and bone marrow, the results of trephine biopsy. Only in one patient with severe pancytopenia, agranulocytosis in peripheral blood, researchers did not succeed in identifying the characteristic morphological change of lymphocytes; myelogram study also did not clarify; the diagnosis was established only on the basis of immunohistochemical studies of the material of the iliac trephine biopsy.
A typical enlargement of the spleen, typical for HCL, was a characteristic of 13 patients. In two, the spleen was enlarged slightly and researchers had to make a differential diagnosis with other lymphoproliferative diseases. Four patients revealed an increase in peripheral and visceral lymph nodes.

In four patients, infectious complications were also observed - pneumonia, in one case - sepsis. Severe hemorrhagic syndrome was observed in two patients.

Treatment of HCL was carried out in accordance with national guidelines. The first stage - recombinant α-interferons, 3-4 months, in a standard dose of 3 million units 3 times a week. The second stage - cladribine, 0.1 mg / day intravenously for 7 days. In 13 patients, this therapy achieved complete remission of the disease. Only in one patient the effect was insufficient and the third stage was performed - rituximab at a dose of 375 mg / m² 1 time per week # 8 (one month after the course of cladribine); after which complete remission was achieved. None of these 14 patients with further observation were diagnosed with a relapse of the disease.

Only one patient case ended with a lethal outcome. She was diagnosed with severe pancytopenia. Against the background of severe agranulocytosis, serious infectious complications joined and the lethal outcome was established in the case of classic clinical manifestations of sepsis.

Conclusions
Thus, hairy cell leukemia is currently a potentially treatable disease. It is necessary to conduct timely, based on modern methods, diagnosis of the disease before the development of serious infectious and hemorrhagic complications occurs. When conducting modern therapy of HCL, the prognosis is overwhelmingly favorable.

References

FEATURES OF THE TOXIC GOITER IN ELDERLY AND SENILE PATIENTS

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Abstract
We analyzed the results of treatment of 57 patients of elderly and senile patients with toxic goiter. There was noted atypical duration of this disease in the elderly, with the prevalence of cardiovascular disease.

Key words: toxic goiter, cardiovascular pathology, elderly persons.

Toxic goiter most often develops at the age of 20-40 years old, but in the last decade, the frequency of the disease has shifted to the older age group and is often observed in the elderly and senile age. About 15% of all patients suffering from thyrotoxicosis are patients over the age of 65
Objective
Purpose is to study the features of the course and outcomes of treatment of toxic goiter in elderly and senile age.

Materials and methods
The results of treatment of 57 patients with toxic goiter operated in the surgical department for the last ten years, have been studied. The average age of patients was 67.1 ± 6.3 years. Among them there were 51 (89.5%) women and 6 (10.5%) men, the ratio of w:m - 8.5:1. Duration of disease was 6.0±1.1 years duration of drug therapy was 3.1±0.4 years. The diagnostic algorithm included: general clinical examination, ultrasound examination with TAPB, thyroid scan (according to indications), determination of thyroid hormone levels (T4,3), TSH, radiography of the neck and mediastinum in two projections with esophageal contrast, morphological study of surgical material.

Results and discussion
Among 57 examined patients, 31 (54.3%) had multinodular toxic goiter and toxic adenoma, 26 (40.3%) had thyrotoxicosis due to diffuse toxic goiter. The most common cause of the first treatment of patients to the doctor were complaints of: weakness 54 (94.7%), heartbeat 46 (80.7%), in 19 (33%) cases, there was a constant form of atrial fibrillation, weight loss was detected in 32 (56.1%). Changes in the central and autonomic nervous system were noted in 39 (68.4%) patients, who showed emotional instability, sweating, poor sleep, increased irritability. In elderly patients, almost the phenomenon of ophthalmopathy was observed in 8 (14%), whereas in the group of persons under 40 years old of ophthalmopathy was found in 34% of cases, which is characteristic of the apathetic"; form of diffuse toxic goiter. Goiter II degree (WHO, 1994) was revealed only 21% in patients over 60 years old. The majority of patients older than 60 years old had comorbidities. Hypertensive disease was detected in 35 (61.4%), coronary heart disease – in 15(26.3%) which, on the one hand, with the addition of thyrotoxicosis, led to aggravation of cardiac complaints, on the other – was the cause of later diagnosis of DTZ. Preoperative preparation included the appointment of thyrostatic therapy, B – blockers, correction of concomitant pathology, efferent methods of detoxification (plasmapheresis). Indications for the operation were: inefficiency of conservative therapy, recurrent course of thyrotoxicosis in 35 (61.4%) patients, compression of the trachea, esophagus in 9 (15.8%), tumor (inability to exclude a malignant tumor in the palpable node) in 4 (7%), in 9 (15.7%) - a combination of several factors. All patients underwent surgery under general anesthesia, 41 (71.9%) patients underwent thyroidectomy, hemithyroidectomy, 16 (28.1%) – subtotal resection of the thyroid gland. Postoperative complications were observed in 3 (5.2%) patients, including 1 case of transient hypoparathyroidism, in 2 patients - unilateral paresis of the larynx. According to the morphological structure of the resected thyroid gland, the predominance of colloidal goiter was revealed, thyroid cancer was detected in 2 cases. After the operation, the patients were on "D" account, received replacement therapy (thyroid hormones) under the control of TSH. Long-term results were studied in 49 (85.9%) patients, good and satisfactory outcomes of the operation were revealed in 41 (71.9%).

References:
TO THE QUESTION OF DIAGNOSIS AND TREATMENT OF GASTRO-INTESTINAL BLEEDING FROM THE UPPER DIGESTIVE TRACT

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Abstract
The results of treatment of 207 patients with gastrointestinal bleeding from the upper digestive tract were analyzed. Timely diagnosis, complex treatment with the use of endoscopic methods of local hemostasis allowed to reduce the number of forced surgical interventions and improve the quality of treatment of patients with acute esophageal-gastric bleeding.

Key words: acute gastrointestinal bleeding, hemostatic methods, results.

One of the urgent problems in abdominal surgery is gastrointestinal bleeding (GIB). Acute blood loss really threatens the lives of patients, and their fate depends on how quickly the correct diagnosis will be made and adequate medical care will be provided. Bleeding from the upper gastrointestinal tract (GIT) is prevalent, accounting for more than 70% of cases. Among the causes of bleeding from the upper gastrointestinal tract there are two large groups – bleeding ulcerative nature (44-49% of cases) and bleeding non-ulcerative nature (51-56% of cases).

Objective
The aim of the study: to evaluate the results of treatment of patients with gastrointestinal bleeding by using modern methods of hemostasis.

Materials and methods
There were analyzed the results of treatment of 207 patients with gastrointestinal bleeding from the upper digestive tract, who were in the surgery clinic at the Blagoveshchensk city clinical hospital for the last year. The age of the patients ranged from 21 up to 78 years old, there were 158 men. The diagnostic algorithm included: the study of clinical and anamnestic data (complaints of the patient, finding out the history of the disease, harmful factors that can provoke bleeding, examination of the patient, identification of concomitant pathology.). The fact of bleeding was established by clinical data – the presence of tarry stools (melena), vomiting blood or vomiting such as "coffee grounds". Much attention was paid to patients' complaints of weakness, cold sweat and loss of consciousness. Laboratory examination was also carried out in all patients with signs of esophageal-gastric bleeding during the first hour from the moment of admission, emergency endoscopic examinations were performed. The objectives of endoscopic studies were: to establish the source and nature of bleeding, if possible, to conduct endoscopic hemostasis.

Results and discussion
Last year 207 patients with acute bleeding from the upper gastrointestinal tract were treated at the Blagoveshchensk city clinical hospital. The majority of patients, 159 (76.8 %) were admitted to the hospital in the first day from the beginning of bleeding, 37 (17.8 %) patients - a day or more later, after 3 days from the beginning of bleeding there were 11 (5.3 %) patients, in 64.7% (134 patients), bleeding was moderate and severe.

Table. Structure of causes of bleedings

<table>
<thead>
<tr>
<th>Causes of bleeding</th>
<th>Number of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding from gastric ulcers</td>
<td>57</td>
<td>27,5%</td>
</tr>
<tr>
<td>Bleeding from duodenal ulcers</td>
<td>35</td>
<td>16,9%</td>
</tr>
<tr>
<td>Bleeding in Mallory - Weiss syndrome</td>
<td>43</td>
<td>20,7%</td>
</tr>
<tr>
<td>Bleeding from esophageal varicose veins</td>
<td>29</td>
<td>14%</td>
</tr>
<tr>
<td>The bleeding from erosions of the esophagus, stomach</td>
<td>31</td>
<td>14,9%</td>
</tr>
<tr>
<td>Bleeding from disintegrating tumors of the stomach</td>
<td>12</td>
<td>5.8%</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Total</td>
<td>207</td>
<td>100%</td>
</tr>
</tbody>
</table>

According to our data, the main source of bleeding in 92 (44.4%) patients were gastric ulcers, duodenal bleeding. The average age of patients with Mallory-Weiss syndrome was 46±5 years old, the ratio of men and women was 3:1. In recent years, the number of patients with bleeding from varicose veins of the esophagus on the background of liver cirrhosis has increased, that is 29 (14%) patients. Alcoholism was the cause of liver cirrhosis in more than 50% of patients. Endoscopic hemostasis was effective in 185 (89.4%) patients. In our clinic for endogenous 67.1% there were used argon plasma coagulation, electrocoagulation 18.4%, and vasoconstrictor injection of sclerosing solutions in 5.8%, combined methods endogamous 8.7% of patients. When bleeding from varicose veins of the esophagus, in 11 (37.9%) patients ligation of veins was performed and in 7 (24.1%) ones vein sclerosis was performed. In the treatment of patients with gastrointestinal bleeding, in addition to endoscopic hemostasis, drug therapy was carried out, the basic drugs of which were proton pump inhibitors (PPI), as well as hemostatic, infusion therapy. 10.6% (22) of patients had relapses of bleeding, in 5.8% (12) of patients bleeding was stopped after repeated hemostasis. Endoscopic hemostasis was ineffective in 10 (4.8%) patients. Patients were urgently operated. The following operations were performed: laparotomy, gastrotomy, duodenotomy with excision or suturing of ulcerative defect  - 6 patients. These operations were performed in patients in extremely serious condition, with profuse bleeding, unstable hemodynamics and in elderly people, with severe concomitant diseases. In patients with unstable hemostasis, chronic callous ulcers of the stomach and duodenum, delayed operations were performed in the next day: resection of 2/3 of the stomach with the imposition of anastomosis by the method of Bilr 2 - 2 patients, gastrectomy - 1 patient. 6 (2.9%) patients with gastrointestinal bleeding died, that were elderly people with concomitant serious diseases and patients admitted to the hospital late, after a day or more.

References

PSYCHOSOMATIC STATUS OF SCHOOLBOYS DEPENDING ON PHYSICAL DEVELOPMENT

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Abstract
One of the leading indicators of children's health - physical development, a set of morphological and functional properties and qualities, as well as the level of biological development, reflecting the dynamics of changes in body size, physique, muscle strength and performance. During the last years there has been a significant deterioration in the health of today's children and adolescents: the increase in the incidence of all types of diseases, deterioration of physical development, reduced level of physical fitness on a background of severe hypokinesia and a violation of the psychological adaptation of schoolboys.

Key words: schoolchildren, constitution, physical development, somatotype, adaptation.

Deterioration of the health status of schoolchildren: an increase in the incidence of all classes of diseases, deterioration in physical development, a decrease in the level of physical fitness is accompanied by pronounced hypokinesia and a violation of the psychological adaptation of schoolchildren [2,4,6]. The source of psychological and social difficulties for children and
adolescents are limitations in meeting their own needs, in expressing their own feelings and emotions, in using internal and external resources, which in turn manifests itself in the form of emotional tension [3,5]. Long-term emotional tension contributes to the overstrain of the child's psyche, having a negative impact on the formation of his personality and changing his behavior. In the situation of the disease, the child's high level of emotional stress, on the one hand, makes it difficult to treat the underlying illness of the child: the success of treatment can be hampered by his negative emotional states arising against the background of overexertion, his hidden or direct resistance to treatment. On the other hand, prolonged emotional stress depletes the adaptive resources of the psyche and increases the risk of somatization of the child's psychological problems [1]. In the conditions of limited adaptive reserves inherent in a growing organism, life activity is carried out in the regime of unstable adaptation, which manifests itself in children in the form of impairment of working capacity, increased fatigue and reduced resistance to adverse effects [5].

**Materials and methods**

The physiological and psychological characteristics of younger schoolchildren with different health groups, depending on their physical development, have been studied. A total of 276 healthy children (I-II health groups) participated in the study. From the entire set of measured and calculated indicators, the most informative characteristics were selected, describing the physiological and psychological characteristics of children.

**Results and discussion**

Polyashova N.V. with et al. (2008) studied the psychological characteristics of younger schoolchildren with different health groups. It was established that the highest index of psychological well-being was for students with group II of health (p < 0.01), significantly lower in pupils with group IV health in comparison with pupils from II (p < 0.01) and III (p < 0.05) groups. In addition, junior schoolchildren with I health group were distinguished by openness, benevolence, sociability, obedience, compliance, conscientiousness, and diligence, while the second group of students - more pronounced formation of intellectual functions, independence, assertiveness, calmness, optimism. Younger schoolchildren with III and IV health groups had pronounced violations in psychological adaptation, difficulties in interpersonal communication, increased anxiety, feelings of inferiority, hostility and conflictiveness, which is associated with existing functional deviations.

Of great interest is the model of the psychological portrait of a fifth-grader depending on the group of health developed by Kuntsevich SA (2010). A healthy fifth grader is a child with a normal or low self-esteem, with manifestations of aggression and fear. School anxiety is not typical, but a child may experience fear of self-expression and fear of not meeting the expectations of others. In the family - not sure, aggressive and experiencing a sense of loneliness. A child with functional abnormalities is characterized by high self-esteem, a sense of loneliness, uncertainty. There are manifestations of school anxiety. In a family, such children experience a lack of communication with their parents and high anxiety. As for schoolchildren with chronic diseases, they are noted for psychological weakness, lack of communication, high school anxiety, while there is a frustration of the need for success, low resistance to physiological stress. In the family, children experience fear, anxiety.

Zorina I.G. (R = 0.95), realistic self-esteem (r = 0.94), developed educational motivation (r = 0.95), a high level of self-esteem (r = 0.91), high mental performance (r = 0.86), achievement (r = 0.94); satisfactory mood (r = 0.94) and well-being (r = 0.82). Indicators of low intelligence have a correlation with low anxiety (r = 0.94), low levels of neuropsychic stress (r = 0.85), unformed learning motivation (r = 0.78), low academic performance (r = 0, 72), with satisfactory activity and mood (r = 0.92 and r = 0.82), unsatisfactory state of health (r = 0.84). Among schoolchildren with a low level of intelligence, a greater number of "rejected" students (r = 0.80 and r = 0.90) and children with dysthymic (r = 0.74) and anxious (r = 0.63) types of accentuation character. At the same time, among schoolchildren with a high and average level of intelligence, the number of healthy children is 2-2.5 times less than among students with a low level of intelligence. 60.5% of students with a high level of intelligence have chronic diseases. The received data testify to what
"price" it is necessary to pay to modern schoolboys.

For such children in the period of illness, the most important forms of support were moral support (80% of cases), attention (65%), offer of help (40%), benevolent advice (93.5%) and interest in well-being (20%) during hospitalization. They were more in need of care (100%), support (97%), affectionate appeals (84%), understanding (62%). As for assistance in the form of advice, purchase of drugs, pity, they did not exceed the level of 40% of cases.

Conclusions
Thus, in relation to weakened somatic children and adolescents, it is necessary, by organizing educational work, to take into account all the subtleties of their health status, factors affecting its non-deterioration, to prepare medical personnel, parents, educators and the sick children themselves to work with such children. In order for this process to proceed successfully, a model is needed, as the supposed mode of action, which takes into account the variety of factors of influence.

References

IRON DEFICIENCY ANAEMIA IN CHILDREN OF EARLY AGE

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Abstract
To study risk factors, features of flow of iron-deficient anaemia and adaptive possibilities in an age-dependent aspect. The iron-deficient states for the children of the first two years of life cause violations of motor and psychical development, hypotaxia; for the children of preschool age result in the delay of speech development, violation of selective attention; for schoolchildren - to the decline of attention, memory and progress, decline of physical activity. At the protracted flow of the iron-deficient states (3 months and more) the caused changes in the health of child do not disappear even after treatment with the use of preparations of iron, that testifies to the necessity of timely diagnostics, therapy and adequate prophylaxis given.

Key words: iron-deficient states, children.

Objective
69 histories of illnesses of children are retrospectively analysed with iron-deficient anaemias of different degree of weight, being on treatment in DGKB Blagoveshchensk, ambulatory maps, extracts from histories new-born.

Materials and methods
Clinical and anamnestic data, haematological indexes and adaptation reactions, are studied by means of alarm indexes of leykotsitogrammy L.H. Harkavy and at el., 1998
Results and discussion

Analysis of obstetric-gynaecological anamnesis of mothers of the inspected children showed that middle age of mothers had made 26-9, primiparous of senior age it was 34 young primiparous there was only 3 extragenital pathology was determined for 52 women. From somatopathies most often there was a chronic pyelonephritis (14 and pathology of gastrointestinal tract 18). Before the offensive of the real pregnancy 46 women had the repeated medical abortions. The flow of the real pregnancy for the mothers of the inspected children was complicated by a toxicosis (69 by anaemia (42 by the threat of breaking (24 Violation of diet and not complete use of maternity leave are educed for 38 women. During pregnancy carried SARS 40 intensifying of chronic infection – 15%.

Analysing anamnestic data it is set that frequency of premature lung-ins for the mothers of children with a sideropenia made a 21 middle body weight at birth made a 3150 g, length of body at birth averaged 49 см. Analysing social anamnesis, it is educed, that among pernicious habits for mothers, smoking (leads 48 abuse of alcohol (13 in 25 cases marriages were not registered to birth of child, about 65 women had secondary or middling-special education. Age-dependent composition of children: 28 child - from 1 month to 12 month, 17 children from 1 3 to, 10 children from 4 6 to, 14 teenagers from 12 18 to. On the degree of weight iron-deficient anaemia looked like the following: IDA of easy degree of weight(Hb of a 109-90 г/л) for 38 children (55 IDA of middle degree of weight (of Hb of a 89-70 г/л) for 18 children (26 IDA of heavy degree of weight (of Hb a less than 70 г/л) for 13 children (19%).

The clinical displays of IDA for the inspected children are conditioned by a presence sideral and anaemic syndromes. Among basic symptoms that can be bound to the sideropenia, ORP processes conditioned by suppression in the mews of organism because of deficit of ferriferous enzymes for children with IDA, observed from the side of skin and her appendages, mucous membranes, CNS. In most cases it is dryness of skin, hair, their fragility, fall, bridou, for more senior children is a hyperkeratinization genicular and ulnar.

The analysis of the state of health of the inspected children showed that majority from them had concomitant pathology: the children of junior age-dependent group in 78 cases had hypoxic-ischemic encephalopathy, syndrome of vegetative-visceral violations, oligotrophy 1-2 degrees at 26ereiï, frequent SARS at 72 rachitis at 15 dysbiosis of bowels at 12 atopic dermatitis for 8 children. The delay of physical development is marked for 61 children, the delay of neuropsychic development is marked for 56 children. For the children of senior age-dependent group anaemia was more often observed on a background chronic gastritis, chronic gastroduodenitis (68 on occasion there were the juvenile fallopian bleeding for girls-teenagers (8 For the children of all age-dependent groups the anomalously located chord of the left ventricle, Mitral valve prolapse I degree., is educed in 78 cases

The study of signal indicators leykotsitogrammy (adaptation index) [Harkavy LH, Kvakina EB, Kuzmenko, TS, 1998] in the group of children with iron deficiency mild to moderate state of calm and showed increased activation in 61 7% of the children, the reaction was training in 12.5%, reactivation reactions and stress in 25.8%. In children with iron deficiency, severe state of calm and increased activation was found in 53.2% of children, the response exercise in 18.5%, reactivation reactions and stress in 28.3%. In the group of children who had IDA mild to moderate severity, was significantly greater reactivity in 79% of cases, while the children have had severe IDA, in most cases, the low reactivity found in 81% of cases.

In this regard, the children in children with mild IDA often (15%) had a satisfactory response adaptation than children with severe IDA, they have more than half the cases, tension and stress reactions. We have analyzed the adaptive response in the age aspect, and found the prevalence of the activation of adaptive reactions in children 13-18 years old. Stress reaction (reaction of stress and reactivation of training), which, according to the LH Harkavy, are not the norm for the child, marked in the younger age group (children under 12 years). In the dynamics of half the children haematological parameters were not restored, and the activation reactions were observed in 45% of patients, stress response persisted in 55%, which is not conducive to clinical remission at the appropriate time.
**Conclusions**

Risk factors for iron deficiency anemia: antenatal - more than half of mothers of children with iron deficiency anemia were age at the time of their birth more than 25 years, a greater frequency of pregnancies (more than 4) occurring against the backdrop of extragenital pathology of the mother with the threat of interruption, viral respiratory infections, toxemia, and anemia, poor nutrition and violation of the pregnancy, abuse of nicotine, low educational level; postnatal risk factors - prematurity, low weight for gestational age, frequent respiratory viral infection, artificial feeding from birth or early transfer to artificial feeding. The incidence of iron deficiency anemia was higher in infants compared with children of other age periods. Most prevalent in clinical iron deficiency anemia of mild, with a pronounced sideropenicheskim syndrome. Iron deficiency anemia occurs in most cases against the delay of neuro-psychological and physical development, provoking frequent viral respiratory infections, malnutrition 1-2 degrees, the pathology of the gastrointestinal tract. Adaptive responses in children and adolescents with iron deficiency anemia show strain adaptive response, ie, reduced adaptive capacity of the organism in children and adolescents that leads to an unfavorable course of disease and a longer recovery of red blood.

**References**


**CORRECTION SIDE EFFECTS OF VALPROIC ACID IN THE TREATMENT OF EPILEPSY IN CHILDREN**

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**Abstract**

Side effects of valproic acid include changes in the functional state of the liver, hematopoiesis, dyspeptic disorders. Such changes develop due to the formation of oxidative stress in the body, as antiepileptic drugs induce the accumulation of lipid peroxidation products. Therefore, it is advisable to prescribe drugs with antioxidant action in the complex treatment of epilepsy. The results of the study showed that the daily intravenous drip of reamberin for 5 days in epilepsy patients with children receiving valproic acid significantly reduces the content of lipid hydroperoxides in blood plasma by 15,4%, diene conjugates by 14,4%, malonic dialdehyde by 14,1% against the background of an increase in the level of ceruloplasmin by 15,6%, vitamin E – by 10,2%, catalase – by 10,7%. Thus, the effectiveness of complex therapy with the inclusion of reamberin in the treatment of valproic acid epilepsy in children was confirmed.

**Key words:** reamberin, valproic acid, lipid peroxidation, antioxidant system, epilepsy, children.

Valproic acid preparations are successfully used in Pediatrics in various forms of epilepsy, firmly occupying the position of the first choice drugs. Despite the fairly good tolerability of valproic acid patients, our previous studies have shown that depakín causes changes in the blood system and adversely affects the functional state of the liver. It is proved that the pathophysiological mechanisms of such changes are the increase in the intensity of lipid peroxidation against the background of the depletion of the antioxidant system, so the study of the possibility of supplementing the basic therapy of epilepsy with drugs that have an antioxidant effect, in our opinion, is quite justified.
Objective
To study the effect of reamberin on the intensity of lipoperoxidation in children with epilepsy receiving valproic acid.

Materials and methods
In the Amur regional children's clinical hospital, 10 patients with epilepsy of children 6-15 years (5 boys and 5 girls) receiving valproic acid at a dose of 15-30 mg/kg were examined. Within 5 days of inpatient treatment, children received the drug reamberin 1.5% solution for infusions of 200 ml daily intravenously drip. Venous blood was performed before (phase I) and after (phase II) course of therapy with reamberin. In the blood plasma of patients was determined by the products of peroxidation – hydroperoxides of lipids, diene conjugates, malonic dialdehyde and the components of the antioxidant system ceruloplasmin, vitamin E, catalase.

Results and discussion
The use of reamberin in children receiving valproic acid contributed to a decrease in the intensity of peroxidation processes: significantly reduced the content of lipid hydroperoxides in blood plasma at the II stage of the study in comparison with the same indicator at the I stage by 15.4%, diene conjugates – by 14.4%, malonic dialdehyde – by 14.1% (p<0.05). Evaluation of the antioxidant system allowed to state a significant increase in the level of ceruloplasmin by 15.6%, vitamin E – by 10.2%, catalase – by 10.7% against the background of the introduction of succinate-containing drug.

Conclusions
Experience of application of reamberin in patients with epileptic children receiving valproic acid showed the effectiveness of complex therapy with inclusion of succinate-containing drug and provides grounds for further study with the purpose of correction of the antioxidant status of the body of the child and the prevention of complications of therapy with anticonvulsants.

References
ASSESSMENT OF REPRODUCTIVE FUNCTION IN WOMEN WITH HYPOTHALAMIC DYSFUNCTION IN PUBERTY

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Abstract

It was carried out a prospective study of 170 adolescent girls with hypothalamic dysfunction over the 2000 to 2014 period. Fertility was evaluated in 86 women of reproductive age with hypothalamic dysfunction in puberty. 46 (53.5%) of them were fertile women, 21 (24.4%) were primary infertile, 14 (16.3%) were secondarily infertile, and 5 (5.8%) had male factor of infertility.

It was revealed that women with primary infertility had higher body mass index (27.05±4.03 kg/m² and 22.63±2.68 kg/m², p=0.000), and abdominal obesity significantly more often (66.7% and 4.4%, p = 0.000) than fertile.

Key words: hypothalamic dysfunction, infertility.

According to a number of studies, girls' hypothalamic dysfunction in the puberty ranges from 7.1% to 25% [1, 2]. Evaluation of the effect of hypothalamic dysfunction on reproductive function has not been carried out, thus a number of researchers noticing that hypothalamic dysfunction in the puberty leads to overweight at reproductive age, which may increase the frequency of reproductive disorders [3].

The aim of the study is to assess fertility in women of reproductive age with hypothalamic dysfunction in puberty.

Materials and methods

A prospective study was carried out over the 2000 to 2014 period, the average observation period was 4.7±1.7 years. In reproductive age, 86 participants were included in the study, 84 were excluded from the study out of 170 participants in puberty.

Reproductive age enrollment criteria were: age over 18 years, hypothalamic dysfunction manifested by neuroendocrine (overweight or obesity) and neurotrophic disorders according to electroencephalography in puberty. Exclusion criteria were: tubal infertility (N 97.1), previous inflammatory diseases of the female pelvic organs (N70 - N75) and women not planning a pregnancy.

To assess the severity of obesity, body mass index was calculated using the formula G. Brey, 1978. The adipose tissue partitions pattern was scaled by fixing the waist measurement. The waist measurement of more than 80 cm testified abdominal type of obesity, according to the established boundaries of the International Diabetes Federation.

Obtained data statistical analyses was carried out using the Microsoft Excel program and the statistical software package Statistica 6.0 in compliance with the general recommendations for medical and biological research.

Results and discussion

Fertility was evaluated in 86 reproductive age women with hypothalamic dysfunction in puberty. 46 (53.5%) of them were found as fertile, 21 (24.4%) were primary infertile, 14 (16.3%) were secondarily infertile, 5 (5.8%) had unknown reproduction capability and male factor of infertility.

It was carried out a comparative analysis of body mass index and waist measurement in fertile women (n = 46) and women with primary infertility (n = 21).

The median age of women in the studied groups at reproductive age did not have significant differences and amounted to 21.91±1.11 years and 21.85±0.97 years, respectively (p=0.82). The body mass index in fertile women was significantly lower compared to BMI in women with
primary infertility and amounted to 22.63±2.68 kg/m² and 27.05 ± 4.03 kg/m² (p = 0.000), respectively. The waist measurement of fertile women was 66.11±5.66 cm, versus the waist measurement of women with primary infertility was 78.52±10.54 cm (p = 0.000), 2 (4.4%) and 14 (14.7%) women had the waist measurement more than 80 cm, respectively, in groups (χ² = 27.7, p = 0.000).

Consequently, every fourth woman with hypothalamic dysfunction is primarily infertile. The presence of metabolic disorders in puberty and reproductive age can be regarded as the main cause of impaired reproductive function, leading to a decrease of fertility, which is consistent with other researchers [2, 3] and is the subject of further study.

The study was carried out with the financial support of the Russian Foundation for Basic Research, project No. 19-013-00781

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REPRODUCTIVE LOSS PREDICTORS IN WOMEN WITH METABOLIC DISORDERS IN ANAMNESIS

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Abstract
The socio-economic and biomedical factors of puberty, reproductive age and risk indicators of primary infertility were assessed in 72 women with metabolic disorders in anamnesis, 26 of them had a primary infertility and 46 were fertile ones. A combination of predictors, which is the best way to predict the probability of primary infertility - hormone-dependent diseases at reproductive age and the occurrence of metabolic disorders at puberty (LDL cholesterol>3.0 mmol/l and TG>1.7 mmol/l) was obtained.

Key words: metabolic disorders, infertility.

The aim of the study is to assess the socio-economic and biomedical risk factors of primary infertility in women with metabolic disorders in anamnesis.

Materials and methods
The impact of a specific factor was assessed by relative risk (RR) and 95% confidence interval (CI). Multivariate analysis was performed using logistic regression models.

Results and discussion
An assessment of the reproductive age primary infertility risk factors was carried out in 72 women of reproductive age with metabolic disorders in anamnesis, including 26 women with primary infertility and 46 fertile women.

The socio-economic and biomedical factors of puberty, reproductive age and the risk indicators of primary infertility in women with metabolic disorders in anamnesis were determined. A significant increase of risk was found in the parenting of girls in an incomplete family in the puberty (RR - 2.6; 95% CI: 1.4–4.9), feto-maternal diseases - threatened preterm labor in the second
and third trimesters of pregnancy (RR 2.0; 95% CI: 1–4.1), at reproductive age - with an increase in waist circumference > 80 cm (RR - 6.4; 95% CI: 3.1–13), BMI> 24.9 kg / m² (RR - 5.4; 95% CI: 2.6–11.3), blood pressure> 140/90 mm Hg. (RR - 3.2; 95% CI: 1.8–5.7), menstrual disorders - oligomenorrhea (RR - 3.8; 95% CI: 2.2–6.8), and excessive menstruation (RR - 3.5; 95% CI: 1.9–6.2) and polycystic ovary syndrome (RR — 3.5; 95% CI: 1.9–6.2).

When calculating CI frequency in women with primary infertility of endometrial hyperplasia - in 4 (19.1%) (95% CI: 7.6–40), uterine fibroids - in 3 (14.3%) (95% CI: 4, 9–34.6) and ovarian endometriosis - in 2 (9.5%) (95% CI: 2.7–28.9), it can be concluded that the effect of these risk factors is present.

Additionally, it was evaluated the impact of the risk of changes in biochemical parameters at the puberty on the developing of primary infertility at the reproductive age in women with metabolic disorders in anamnesis. Significant risk factors were LDL cholesterol> 3.0 mmol / l (RR - 3.6; 95% CI: 1.7–7.6), TG> 1.7 mmol / l (RR - 2.6; 95% CI: 1.4–4.9).

A multiple logistic regression model was constructed based on the identified significant risk factors for primary infertility in women with metabolic disorders in anamnesis. The dependent variable is the existence of primary infertility in women with metabolic disorders in anamnesis, all independent variables included in the multiple logistic regression model are binary. Predictors, such as oligomenorrhea, excessive menstruation, polycystic ovary syndrome, glandularcystica hyperplasia of endometrium, were combined into hormone-dependent diseases, biochemical predictors (LDL and TG cholesterol) into the metabolic syndrome criteria.

The multiple logistic regression model has allowed to establish a set of predictors that best predicted the probability of primary infertility in women with metabolic disorders in anamnesis ($\chi^2 = 46.15$, $p = 0.0000$): hormone-dependent diseases in reproductive age (OR = 5.6; 95% CI: 2.5–30.2) and MS criteria (OR = 9.5; 95% CI: 1.7–51.9). Correctly classified correlation into the group is 84%.

Thus, a set of predictors that best predict the probability of primary infertility in women with HD and metabolic disorders in anamnesis are hormone-dependent diseases at reproductive age and the presence of metabolic criteria (LDL cholesterol> 3.0 mmol / l and TG> 1.7 mmol / l - dyslipidemia) at puberty. Changes in the lipid spectrum at the puberty leads to the development of primary infertility at the reproductive age, which may also be associated with atherogenic changes in the vessels [1, 2]. Therefore, timely correction of lipid metabolism disorders at the puberty and early detection of hormone-dependent diseases will contribute to the prevention of primary infertility in patients with metabolic disorders in anamnesis.

The study was carried out with the financial support of the Russian Foundation for Basic Research, project No. 19-013-00781

References

INFLUENCE OF ADAPTOGEN LEUZEA CARTHAMOIDES ON THE ANTIOXIDANT STATUS OF MEDICAL STUDENTS

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Abstract
A controlled open randomized study was conducted to study the effect of the drug Leuzei on mental performance in third-year volunteer students at the Amur Medical Academy. Students were
randomly assigned to 2 groups, each with 10 volunteers: a control group (1), students in normal (standard) conditions and not receiving the drug Leuzea; experimental group (2), students orally daily take the drug Leuzea 2 tablets 2 times a day for 25 days. The use of drugs leuzea student volunteers leads to stabilization of the processes of peroxidation against the background of increasing the activity of the main components of the antioxidant system, indicating clinical validity and potential of the use of leuzea carthamoides students of higher educational institutions.

Key words: adaptogens, drug leuzea, antioxidant status, student volunteers.

Adaptogens are drugs that create a state of nonspecific increased resistance to various pathogenic factors and provide an increase in the adaptive capacity of the body. The uniqueness of the chemical composition of adaptogen leuzea (Leuzea carthamoides), including such biologically active substances as photoedotiki, coumarins, flavonoids, sterols, waxes, tannins (5%), carotene, ascorbic acid, gum, resin, volatile oil (0,9%), inulin, organic acids (6,07%), suggests the possibility of increasing the antioxidant status in medical students.

Objective
The study of the influence of drug leuzea on the antioxidant status of the student volunteers of the third course of the Amur state medical Academy.

Materials and methods
On the basis of the Amur State Medical Academy conducted a controlled randomized open study on the effects of the drug leuzea carthamoides on the indexes of mental performance and antioxidant status in student volunteers third year. The students were randomized into 2 groups and each of them had 10 volunteers: the control group (1), students who are in normal (standard) conditions and do not receive the drug leuzea; the experimental group (2), students daily orally took the drug leuzea 2 tablets 2 times a day for 25 days. Efficacy was evaluated by the content of lipid hydroperoxides, diene conjugates, malonic dialdehyde and activity of the major components of the antioxidant system (ceruloplasmin, vitamin E) in blood of students.

Results and discussion
In the analysis of the influence of leuzea carthamoides on the antioxidant status of the students, it was concluded that the introduction of phytoadaptogens contributes to a significant decrease in plasma content of lipid hydroperoxides by 12%, of diene conjugates and malonic dialdehyde – by 18% due to increase of ceruloplasmin activity by 11%, of vitamin E – by 2%, of catalase – by 13% compared to the same indicators in the control group of volunteers.

Thus, the use of drugs leuzea student volunteers leads to stabilization of the processes of peroxidation against the background of increasing the activity of the main components of the antioxidant system, indicating clinical validity and potential of the use of leuzea carthamoides students of higher educational institutions.

References:
SAPONINS IN EUROPEAN AND CHINESE MEDICINE

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Abstract
On the basis of the available literature data, the analysis of the use of various plants of European and Chinese folk medicine containing saponins is carried out. It is shown that saponins are contained in more than a hundred different species of plants and food products, have many valuable pharmacological effects. A comparative evaluation of the effectiveness of the Chinese folk medicine medicinal plants containing saponins in various diseases and pathological conditions.

Key words: saponins, medicinal plants, Chinese medicine, pharmacological effects.

Saponins are naturally occurring plant glycosides. Saponins have soap-like qualities and produce soap foam when mixed with water. More than a hundred plant families contain saponins. Saponins are very useful for human health. Studies have shown that these substances strengthen the immune system, normalize cholesterol levels in the blood, and improve overall health. Saponins can bind to water as well as fats and oils. This means that in the gastrointestinal tract saponins produce emulsification of fat-soluble molecules. In particular, saponins bind to bile acids and help to remove them from the body, preventing the reabsorption of cholesterol. A study conducted on 1977 animals showed that these substances reduce the absorption of cholesterol. In nature, the saponins protect the plant from parasites. Scientific studies have shown that these substances protect against Candida, have antimicrobial activity. The ability of saponins to act as a line of defense reduces the load on the immune system.

Saponins effectively inhibit the growth of cancer cells. In particular, some saponins have an antioxidant effect and can be toxic to cancer cells. According to an article published in the journal of Nutrition, saponins from soybeans can slow the growth of cancer cells. Other studies have also shown that saponins cause cancer cell death and slow tumor growth. The valuable properties of saponins include the support of Kupfer cells in the liver and the normalization of detoxification. Saponins, which have been found in oats and spinach, improve digestion, accelerate the body's ability to absorb calcium and silicon. Animal studies have shown that saponins normalize blood sugar levels and maintain normal bone density, are useful in kidney disease and depression.
Saponins are found in more than a hundred different species of plants (ginseng, creeping anchors, gynostemma, licorice, ligusticum, collinsonia, etc.) and food products, including beans, peas, peanuts, quinoa and soy. Many saponins contain nightshade vegetables (tomatoes).

On the basis of available literature sources, we have analyzed the use of various plants of Chinese folk medicine containing saponins. The Chinese name of the plant "Nu-si" (Solomon bicuspid) is used as a means of restoring strength. "Sha-Shen" (Bell multiform), "Jiao Jia" (Gleditsia Chinese), "Jie-Gen" (Campanula grandiflora), "yuan Zhi" (the fine-leaved milkwort) are used as expectorants in bronchitis. "Nan-Xing" (trifoliate Arizona) is used as a disinfectant. "Chai Hu" (Bupleurum kotimaita) is widely used in diseases of the liver. "Liang-Tsyao" (Forsythia) and "Da-Ba-Xiang-Hua" (Hydrangea macrocolor) are used as bactericidal agents. "Fen Xiang-Hau" (Touchy balzaminova) is applied into the poisoning of fish and the bites of poisonous snakes.

"Wang-Bu-Liu-Xing" (Soapwort tsatsarova) is used as a laxative drug.

Given that in Russia the main medicinal saponin-containing plants are Diascorea and creeping Anchors, which are almost destroyed, it is necessary to pay attention to the experience of Chinese medicine.

References
THE CHANGE OF MORPHOLOGICAL AND FUNCTIONAL STRUCTURE OF THE TRACHEA OF RATS WITH ORTHOSTATIC HANGING WITH COLD EXPOSURE

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Abstract

The purpose of this work is to assess the morphofunctional parameters of the ciliary epithelium of the trachea in rats in an experiment with orthostatic hanging and cold exposure. As a result of the experiment, a decrease in the functional activity of ciliated epithelial cilia was found, there were changes in the tracheal epithelium in comparison with intact group.

Key words: orthostatic hanging, cold exposure, space medicine

Objective

To study the effect of combined action of hypogravity and cold exposure to mucociliary clearance of male rats.

Materials and methods

Conditions of hypogravity were modeled in a device-clinostat for modeling the effects of low gravity on laboratory individuals (patent number for utility model: 183861), thanks to the ability to hang the animal with raising the caudal part over the cranial by 15 degrees. Cooling was carried out in a climatic chamber (type 3001 “ILKA”, Germany) at a temperature of -150 °C for 3 hours daily. The study was conducted on 20 male rats aged 8-10 weeks and weighing 150-200 g. All animals were kept in the conditions of vivarium of FSBEI HE Amur SMA Russian Ministry of Health of the Ministry of health of Russia on a standard diet. The individuals were divided into 2 groups (control and experimental) of 10 individuals each. Rats of the experimental group, were hung out in the hypogravity chamber (one individual in the chamber) with the rise of the caudal part by 15 degrees for 28 days and for 3 hours were placed in the climatic chamber for cooling daily. The control group was not exposed. For the in vivo study of the functional activity of cilia of the atrial epithelium, the biopsy was placed in a special chamber with a medium (Hanks solution). Registration of the vibrational activity of the cilia was carried out using a computer system. As the main control methods we used the frequency of beating of cilia (CBR) is the number of cycles performed by cilia per second of time, measured in Hertz (Hz), as well as histological analysis of tracheal tissues. Tissue and organ sampling for histological analysis was carried out during the removal of individuals from the experiment.

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**Results and discussion**

The combined effect of two pathogenic factors, which include cold stress and orthostatic hanging significantly, changed the tissue structure of the tracheal mucosa and adversely affected the mucociliary clearance. The study of functional ability of cilia of the atrial fibrillation epithelium in control and experimental individuals revealed that the average value of the frequency of cilia oscillations per 1000 points was 24.07±1.95 Hz in the control group of animals, in experimental individuals it was 4.66±1.08 Hz (p<0.001-the level of statistical significance of differences in comparison with the group of intact animals. The differences between the measured parameters were calculated by the unpaired t-Student). Microscopic examination of the tracheal mucosa of the control group shows that all cells touch their basal poles with the basal membrane. They have usual cylindrical shape, their nuclei are oval, located closer to the basal pole of the cell, the cilia are in the apical part of the cells without pronounced deformations. The basal membrane is flat without visible thickening and spreads throughout the epithelium of the trachea. In the experimental group, the cilia of the atrial epithelium are disoriented. There is a deformation of the ciliated epithelium, cilia of the ciliated epithelium are disoriented, rounding and reducing the size of the nuclei and cells of the epithelial layer, due to this there is a decrease in the height of the epithelium. Connective tissue is swollen with minor foci of infiltration. There is also a sloughing of the epithelium with the denudation of basal cells. How can we find that the dystrophic processes occurring in the epithelium affect the functional activity of ciliated cells, which manifests itself in a significant decrease in the vibrational movements of the cilia compared to the norm.

All this indicates that the effect of the combined effects of orthostatic hanging and cold stress adversely affects motor activity of the cilia of the ciliated epithelium of rats, which may further lead to stagnation on the surface of the epithelium of the trachea and a negative impact on the development of the pathological process of activation of oxidative stress.

**References**


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**THE EFFECT OF TRANSCRANIAL DIRECT CURRENT STIMULATION ON MOTOR LEARNING IN HEALTHY PEOPLE**

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**Abstract**

Transcranial cerebellar direct current stimulation (tcDCS) – Transcranial cerebellar Direct Current Stimulation is a noninvasive method of electrical stimulation of cerebellar cortex by a
direct current. Weak subthreshold direct current acts on the cerebral cortex and leads to a change in the activity of cortical neurons, which continue a certain time after the end of the impact. Particularly the effects of transcranial stimulation of the cerebellum are found during stimulating the cerebellar-cortical junction. Neurophysiological and behavioral changes, gait changes, motor training are also noted in healthy people. Using tcDCS increases the speed of motor skills formation, therefore the productivity and effectiveness of training increase.

**Objective**
To assess the effect of transcranial cerebellar stimulation on the rate of motor skills formation during non-invasive cerebellar stimulation using a current of 1.1 ± 0.4 mA.

**Materials and methods**
The study involved 30 healthy people, aged 18 to 23 years. The experiment used Oz stimulation points according to the International 10–20 EEG system. Stimulation was made by direct current, with a force of 1.1 ± 0.4 mA. The stimulation time was 20 minutes. The participants had five stimulation sessions with an interval 24 hours between them. The participants got training shooting after passing each stimulation session. Five shots were made at fixed targets using an air pistol from a distance of 10 meters for 10 minutes. Points were considered by the holes of the target areas after each shot. The sum of points scored for one series of shots was taken as an indicator of the participant’s shooting effectiveness on a particular day. The performance of the group in one day was the mean (M) points scored of all participants. Evaluation of health state during stimulation and after was made.

**Results and discussion**
The control group didn’t have significant differences with the placebo group, while there were significant differences with the group with stimulation in 1–4 days. The results can confirm the theory of the positive effect of tcDCS. tcDCS can influence on the speed of motor skills mastering. There is no complete understanding of stimulation mechanisms, we are unable to maintain its effectiveness indicators at a high level. It is necessary to consider additional studies with different stimulation parameters in the future.

**References**

### EFFECT OF SUCCINAT-CONTAINING DRUG ON THE INTENSITY OF PROCESSES OF LIPID PEROXIDATION IN THE CONDITIONS OF INTRODUCTION OF VALPROIC ACID

Amur State Medical Academy, Blagoveshchensk, Russian Federation

**Abstract**
The effect of valproic acid on the intensity of lipid peroxidation and the possibility of correction of oxidative stress by the introduction of succinate-containing drug in rats were investigated. The use of synthetic antioxidant under the conditions of introduction of antiepileptic
drug in experimental animals leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

**Key words:** reamberin, valproic acid, lipid peroxidation, antioxidant system, rats.

Long-term use of antiepileptic agents leads to a decrease in respiratory tissue activity, disconnection of respiration with phosphorylation, reduces the activity of the antioxidant system and induces the development of undesirable side effects. This determines the appropriateness of prescribing drugs with antioxidant and antihypoxic activity in the complex therapy of epilepsy.

**Objective**

Study of the effect of reamberin on the intensity of lipoperoxidation processes induced by the introduction of valproic acid in the experiment.

**Materials and methods**

In experimental conditions the possibility to correct free radical lipid oxidation of rats’ organism membranes was studied with the introduction of the succinate containing drug called reamberin (Polysan, St.Petersburg). The animals were divided into 3 groups and each of them had 10 rats: the group with intact animals which were held in standard conditions of vivarium; the control group in which rats were given valproic acid during 10 days daily; the experimental group in which before the introduction of valproic acid animals had a daily intra-abdominal intake of the reamberin in a dose of 100 mg/kg (20 ml/kg). The intensity of peroxidation processes was assessed by examining the contents of hydroperoxides lipids, diene conjugates, malonic dialdehyde and the main components of the antioxidant system, (ceruloplasmin, vitamin E) in the in the blood and in the liver of animals. The results obtained were subjected to statistical analysis with calculation of parametric criteria Student.

**Results and discussion**

The use of valproic acid in the experiment intragastrically at a dose of 150 mg/kg for 10 days increases the amount of lipid hydroperoxides (30 – 33%), diene conjugates (31 – 35%), malonic dialdehyde (45 – 56%) and reduces the level of ceruloplasmin (31 – 38%) and vitamin E (32%) (p < 0.05). The introduction of the succinate–containing drug reamberin intraperitoneally at a dose of 100 mg/kg (with respect to succinate, 20 mL/kg) 90 min before each intragastric administration of antiepileptic drug for 10 days) under conditions of oxidative stress reliably contributes to decrease in the blood and liver lipid hydroperoxides by 18 – 20%, diene conjugates by 16 – 18%, and malonic dialdehyde by 17 – 20% as compared to values in the control (untreated) group of animals (p < 0.05). While analyzing the effect of succinate-containing drug on the activity of components of the antioxidant system, it was found that the level of ceruloplasmin in the blood and liver of animals was reliably higher by 21 – 42% and the level of vitamin E by 20 – 33% in comparison to rats of the control group (p < 0.05).

**Conclusion**

Thus, the use of synthetic antioxidant under the conditions of introduction of valproic acid in experimental animals leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

**References**

TO THE QUESTION ABOUT THE LONG-TERM INFLUENCE OF GLUCOCORTICOCIDS ON THE PERIPHERAL BLOOD RATURES OF WHITE RATS

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Abstract

This study assessed the prolonged (within 42 days) effects of intraperitoneal injections of dexamethasone on the cell composition of the peripheral blood of Wistar white rats in order to create an immunosuppression model. To calculate the number of leukocytes and red blood cells, the Goryaev chamber was used, the calculation was made according to the standard method. A leukocyte formula was also analyzed: blood smears were fixed in Mai-Grunwald eosin with methylene blue and stained according to Romanowsky-Giemsa. As a result of the experiment, an increase in the number of segmented neutrophils and a decrease in the number of lymphocytes and eosinophils was noted. A decrease in the weight of the rats of the experimental group in comparison with the control one was also noted.

Key words: glucocorticoids, blood, leukocytes, neutrophils, lymphocytes, immunosuppression.

Despite the many currently available classes of immunosuppressive drugs, there is no single immunosuppression scheme in experiments on laboratory animals. Among all groups of immunosuppressive drugs, glucocorticoids (GC) are the most accessible, which are widely used in clinical practice, providing anti-inflammatory, desensitizing, immunosuppressive, anti-shock and anti-toxic effects.

The main mechanisms of action of glucocorticoids on the stem cells of the red bone marrow are carried out by inhibiting the NF-kB and AP1 pathways through the family of glucocorticoid receptors, which leads to a decrease in leukocyte differentiation and activity. In large doses, the number and activity of the entire population of lymphocytes, as well as macrophages, antigen-presenting and mast cells, are reduced due to the suppression of red bone marrow stem cells. GCs also lead to a decrease in the number of pro-inflammatory cytokines, which also inhibits the immune response.

Objective

To assess the dynamics of changes in the peripheral blood indices of white rats
(erythrocytes, leukocytes and their fractions), which will make it possible to judge the effectiveness of immunosuppressive therapy.

**Materials and methods**

There were taken white males of Wistar rats (20 animal units) weighing 200 g - 300 g, aged from 8 months to 1 year, obtained from the vivarium of Amur State Medical Academy. The animals were kept in an experimental biological clinic on a standard diet, with free access to water and food, at a temperature of 22 ± 1 °C and 12 hours of illumination. Dexamethasone was intraperitoneally injected once in two days to the experimental group of animals (10 rats) for 42 days at a dosage of 2 mg / kg of animal body weight. The control group of animals intraperitoneally received a 0.9% solution of sodium chloride in equivalent volume.

Animals were removed from the experiment by dislocation of cervical vertebrae under chloroform anesthesia on the 42nd day of the experiment; all manipulations with animals were carried out in accordance with the European Convention for the Protection of Vertebrate Animals used for experiments or for other scientific purposes. All individuals were weighed at zero and, subsequently, every 6th day of the experiment, blood samples were taken in a volume of 100 μl from the tail vessels under ether anesthesia as the control.

To calculate the number of leukocytes and red blood cells, the Goryaev chamber was used, the calculation was made according to the standard method. A leukocyte count was also performed. For this, blood smears were fixed in eosin methylene blue according to Mai-Grunwald and stained according to Romanowsky-Giemsa.

Statistical processing of the data was carried out through Microsoft Excel, the Student’s t-test was evaluated. The significance of differences was evaluated with the value of p<0.05.

**Results and discussion**

As a result of the experiment, there was observed a statistically significant decrease in the body weight of rats in the experimental group (p = 0.02) compared with the control group, which indicates the stress state of animals in the background of immunosuppression. An increase in the number of leukocytes due to an increase in the number of segmented neutrophils and eosinophils (p = 0.17 and p = 0.002) and a decrease in the number of lymphocytes (p = 0) was statistically significant.

Statistically insignificant differences were observed in the number of erythrocytes, monocytes, basophils.

In the future, it is planned to conduct additional experiments for a more in-depth research of the effect of glucocorticoids with the study of the morphology of the immune system organs, using other, newer methods of diagnosing changes. All this is necessary to obtain more significant data in favor of the possible use of glucocorticosteroids as immunosuppressive therapy.

**References**

RESULTS OF SCANNING ELECTRON MICROSCOPY OF CELL CULTURES OF FIBROBLASTS BY COMBINATION OF LANTHANOID CONTRASTING AND CARBON COATING

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Abstract
The features of working with biological material for scanning electron microscopy are based on their chemical structure. In general, biological objects consist of light chemical elements and water, which leads to low contrast of samples, since the best reflection of electrons comes from elements with a large atomic weight. To solve this problem, there are many approaches. One of which is the contrast, with the help of salts of lanthanum. The aim of our work is to study the possibility of combining this approach with standard carbon deposition of samples.

Key words: cell biology, scanning electron microscopy, carbon deposition, contrasting, lanthanum chloride.

Scanning electron microscopy (SEM) is a unique method of control in biological research. The peculiarities of working with biological material during EMS are based on their chemical structure. Biological objects mainly consist of light chemical elements and water, which leads to low contrast of the samples, since the best reflection of electrons comes from elements with a large atomic weight. To solve this problem, there are several approaches. The first approach is spraying corrective substances on the surface of a biological object, the most common is the use of gold or graphite. The second approach is to increase the contrast of individual tissue structures by replacing them with light atomic weight elements with heavy ones, but this technique is applicable only to living tissue, for example, replacing Ca2+ with La3+.

Objective
The aim of our work is to study the possibility of combining standard methods of contrasting biological objects by combining the method of carbon coating with lanthanide contrast.

Material and methods
Testing and studying the methods was carried out on the rat primary fibroblast cell line. Cells were cultured on DMEM nutrient medium supplemented with 10% bovine serum, at 37 °C and 5% CO2. Studies were performed on samples of cells with confluence of at least 80% as follows. At the first stage, the whole nutrient medium was removed from the living cell culture, after which the culture was washed with phosphate-buffered saline (PBS), pH 7.4, by resuspension. Then a 2.88% solution of lanthanum chloride was added to the cell culture, in which the cells were incubated for 30-40 minutes at 37 °C and 5% CO2. Sample preparation of cells on scaffolds was carried out according to a similar method. After incubation in the lanthanum chloride solution, the cells were washed with distilled water for 6-10 seconds by resuspension. After 10 minutes of drying in air, the sample was analyzed using a Hitachi S-3400N scanning electron microscope (SEM), in a back-reflected electron (BSE) analysis mode, at a low 60 Pa vacuum with an accelerating voltage of 30 kV. For viewing in BSE mode at high vacuum, the prepared and dry samples were s coating with carbon using a standard procedure.

Result and discussions
The results were evaluated on the basis of images obtained by SEM in the BSE mode at low and high vacuum. The ability of lanthanum chloride to contrast the cell culture monolayer and 3D culture on a gelatin-glutar scaffold under low and high vacuum was analyzed. The main evaluation criteria were the contrast of the cells and their internal structures, the quality of the images obtained. A monolayer of cells on plastic (Figure 1.2) shows a high degree of contrast of the obtained images and the ability to analyze the internal structures of cells. The image clearly contrasts the membrane and the nucleus of the cell with the nucleoli. Visible cytoskeleton, EPR and membrane vesicles in the cytoplasm of the cell. The use of carbon coating and viewing at high vacuum (Fig. 3, 4) allowed...
to increase the quality and detail of the obtained images, but as a result of the deposition, the overall contrast of the structures decreased.

The use of carbon coating in conjunction with lanthanoid contrasting showed positive results in a number of experiments. The images are clear, contrast, allow to analyze the cell ultrastructures, which significantly increases the informativeness of the EMS. The use of this technique can be an important tool in cell biology, tissue engineering and microbiology. The advantage of the method is fast sample preparation on the background of high image detail. This technique of contrast allows you to see the structure under the surface of cells, on SEM, which further expands the possibilities of its use in biological research.

References

FUNCTIONAL FOODS FROM SOY BEANS AND PUMPKIN

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²- Amur State Medical Academy, Blagoveshchensk, Blagoveshchensk, Russian Federation

Abstract
The article presents the results of studies of the chemical composition of soybean and its products for functional nutrition. It was established that the combined products from soybeans and pumpkins have a significantly higher content of phosphatides, vitamin E and carotenes, which makes it possible to recommend them as functional products for the prevention and treatment of diseases associated with the activation of free radical oxidation processes.

Key words: soy, pumpkin, protein, oil, phospholipids, vitamin E, carotenes

Antioxidant-rich products from soy are used as agents for the prevention and treatment of a number of diseases [1] and therefore can be considered as functional products. Vitamin E (alpha-tocopherol) is the main antioxidant of soy [2]. Other lipophilic antioxidants present in many plants, and in particular in pumpkin, are carotenes in significant quantities [3], but their content in soybeans is not enough [2].

Objective
The purpose of the study was the creation of carotene-rich functional products from soybeans and pumpkins and the study of their chemical composition.

Materials and methods
In this work, the soybean of the early-ripening variety “Karushevnitsa” of the selection of the All-Union Scientific Research Institute of Soybean, Blagoveshchensk and the pumpkin of the variety “Nadezhda” of the selection of Far-Eastern Research Institute of Agriculture, Khabarovsk were used. Soy milk was obtained by water extraction from swollen and chopped soybeans, and soy-pumpkin drink from a mixture of soybeans and pumpkins. To obtain soy pumpkin dessert, ascorbic acid was added to the specified drink. After condensation, the serum was separated from the porridge mass, which was crushed to a pasty state [4]. In the investigated products, the humidity was determined by the method of drying at a temperature of 100-105 °C to constant weight. The protein content in the studied products was determined by the biuret method [5]. Lipids were extracted according to the method of Bligh-Dyer [6]. The oil content was determined by weighing on an analytical balance of one stripped off lipid extracts. One stripped off extracts from 0.4 g of ground soybeans, 1 ml of soy milk and soy-pumpkin drink and 1 soy-pumpkin dessert was dissolved in 3 ml of hexane and the content of phospholipids was determined by inorganic phosphorus [4], vitamin E by color reaction with Fe³⁺ ions and dipyridyl [7], a carotene formula of 190-600 nm in wavelength scan measurement mode [8]. The content of carotenes was calculated by the absorption maximum at 445 nm, characteristic of beta-carotene, using an absorption coefficient of 1% beta-carotene solution of 2620 units of optical density [3].

Results
The table shows the results of the analysis of the investigated products. The moisture content and chemical composition of the soybean sample studied did not have significant differences compared to other soybean varieties. In terms of dry weight in soybean milk, compared with soybeans, there was a higher content of protein and phosphatides, but a lower content of oil and vitamin E, which is understandable with regard to the technology for the production of soybean milk, which is an aqueous extract of ground soybeans. Carotenes in soy milk were not determined due to extremely low content. In the combined soy-pumpkin drink compared to soy milk, based on dry weight, there was a slightly lower content of protein, oil and vitamin E, but the content of phosphatides in it was 3 times higher and carotenes were present in large quantities. The latter was also characteristic of soy-pumpkin dessert. In terms of wet weight, this product was characterized by the highest content of all determined by the component.
Table Physico-chemical properties and composition of soybeans and functional foods studied

<table>
<thead>
<tr>
<th>Foods</th>
<th>Soybeans</th>
<th>Soy milk</th>
<th>Soya-pumpkin drink</th>
<th>Soya-pumpkin dessert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity (%)</td>
<td>6.3</td>
<td>96.9</td>
<td>95.3</td>
<td>79.3</td>
</tr>
<tr>
<td>Protein (mg/g wet weight)</td>
<td>332</td>
<td>12</td>
<td>13.4</td>
<td>57.5</td>
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<tr>
<td>Protein (mg/g dry weight)</td>
<td>354</td>
<td>387</td>
<td>285</td>
<td>278</td>
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<tr>
<td>Oil (mg/g wet weight)</td>
<td>169</td>
<td>8.6</td>
<td>10.5</td>
<td>58.5</td>
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<tr>
<td>Oil (mg/g dry weight)</td>
<td>180</td>
<td>277</td>
<td>223</td>
<td>283</td>
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<tr>
<td>Phosphatides (mg/g wet weight)</td>
<td>7</td>
<td>0.56</td>
<td>2.4</td>
<td>3.34</td>
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<tr>
<td>Phosphatides (mg/g dry weight)</td>
<td>7.5</td>
<td>18.1</td>
<td>51.1</td>
<td>16.1</td>
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<tr>
<td>Vitamin E (mg/g wet weight)</td>
<td>0.315</td>
<td>0.061</td>
<td>0.067</td>
<td>0.286</td>
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<tr>
<td>Vitamin E (mg/g dry weight)</td>
<td>0.336</td>
<td>1.97</td>
<td>1.42</td>
<td>1.39</td>
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<tr>
<td>Carotenes (мкр/g wet weight)</td>
<td>10.2</td>
<td>-</td>
<td>9.58</td>
<td>28.6</td>
</tr>
<tr>
<td>Carotenes (мкр/g dry weight)</td>
<td>10.9</td>
<td>204</td>
<td>138</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

Soy-pumpkin drink and soy-pumpkin dessert are products with a maximum content of phosphatides, vitamin E and carotenes, which allows us to recommend them as functional products for the prevention and treatment of diseases associated with the activation of free radical oxidation processes.

References:


THERAPEUTIC PRINCIPLES AND MEDICATION STRATEGY ANALYSIS OF ZHENG-JIA BASED ON FEMALE MENSTRUAL CYCLE

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Abstract
In professor Wang Xiuxia's experience and theory in treating kidney deficiency and blood stasis Zheng-Jia, it is proved that the main pathogenesis is "kidney Yang deficiency and failure, blood stasis in the cell". "Warming kidney yang and searching for blood stasis in the cell collaterals" is brought out to be the treatment principles. The law of female physiological Yin-Yang growth and decline and menstrual cycle are proved to be an effective medication strategy.

Keywords: Zheng Jia, Kidney Deficiency and Blood Stasis, Famous Medical Experience, Wang Xiuxia

Zheng-Jia is a common disease located in women's lower abdomen. The main symptoms are lumps in women's lower abdomen, swelling, fullness, pain, or irregular menstruation. It belongs to pelvic masses caused by female genital tumors and pelvic inflammatory masses in modern western medicine. For the symptoms, Wang Xiuxia (Wang) put forward "kidney Yang deficiency, blood stasis in the cell" as the main etiology and pathogenesis. In terms of therapeutic principles, Wang put forward the idea of "warming kidney-yang and searching for blood stasis in cellular collaterals". In clinical application, Wang put forward the medication strategy based on menstrual cycle according to the law of Yin and Yang in women's physiology. Now the experience and theory of Wang Lao in treating kidney deficiency and blood stasis Zheng-Jia are discussed as follows.

Therapeutic principles: warming kidney-yang and searching for blood stasis in cellular collaterals
According to the main etiology and pathogenesis of kidney deficiency and blood stasis syndrome and many years of clinical experience, Wang believed that the disease should be treated by both strengthening the body and eliminating pathogenic factors, and combating both tonifying and reinforcing. She proposed the therapeutic principle of "warming kidney yang, searching for blood stasis in cellular collaterals". Lichong Decoction was the main prescription of the prescription, which was added or subtracted according to clinical symptoms to the effect of tonifying deficiency and eliminating blood stasis.

Lichong Decoction is derived from Zhang Xichun's "Shenxi Record of Medical Intention". It is composed of leech, raw astragalus, raw trigonum, raw zedoary, raw peach kernel and other medicines. Lichong Decoction is a classic prescription for gynecological diseases, which fully embodies the principle of "searching and eliminating" without damaging the righteousness of qi.

However, "search and rejection" mainly aims at the accumulation of blood stasis, but fails to solve the deficiency of Yang. Wang pointed out that the deficiency of kidney-yang is the internal cause and pathogenesis of the disease, the deficiency of kidney-yang, the dysfunction of warming Qi and stagnation of reproduction, so the dosage of Warming-yang drugs should be increased.

Medication strategy: yin-yang fluctuation and menstrual cycle
In clinic, according to the physiological characteristics of women, Wang Xiuxia established the medication strategy based on the female menstrual cycle by flexibly applying the treatment principle of "warming kidney-yang, searching for blood stasis in the collaterals". The theory of Yin-Yang fluctuation elaborates that the rise and fall of Yin-Yang and Qi and blood of women change periodically with the menstrual cycle.
Among them, the menstrual cycle is divided into four stages: (1) menstrual period, (2) post-menstrual period, (3) inter-menstrual period and (4) pre-menstrual period. Although the treatment rules of different stages remain unchanged, the focus of treatment and prescription medication should be adjusted according to the changes of Yin and Yang in different stages of the patient's body.

(1) Menstrual period. When the patient is in menstrual period, the medication should be mild temperature and mild attack, so as to avoid the use of drugs that attack too much or too strong, in order to prevent damage to the cells and collaterals.

(2) Post-menstrual period. When the patient is in the Post-menstrual period of menstruation, the medication should take the middle temperature attack as the strategy, and on the basis of Warming Yang and strengthening the body, gradually enhance the efficacy of the medicines used in eliminating symptoms and removing stasis.

(3) Inter-menstrual period. When the patient is in the menstrual interval, the medication should take strong temperature and strong attack as the strategy, fully mobilize Yang Qi function, and try to find out the meaning of removing blood stasis.

(4) Pre-menstrual period. When the patient is in premenstrual period, the medication should take the middle temperature attack as the strategy and nourish Yin appropriately. At the same time, taking into account the growth law of Yang Qi at this stage of the body, and considering that the body is about to enter the menstrual period and self-motivated dysfunction and desilting function, it is necessary to avoid the use of fever and overaggressive drugs.

**Prognosis**

After stabilization of the disease, the body has not yet fully recovered. It is still necessary to restore the original and strengthen the vital energy, adjust the functions of the viscera and balance of Yin, Yang, Qi and blood in order to prevent the recurrence of the disease. According to the climate characteristics in the northern area in China, in Wang’s experience, Jinkui Shenqi Pill is suggested to be taken to warm and tonify the kidney-yang after a long winter, which was cold and dry and easily damaged the kidney-yang and affected the movement of Qi and blood. In addition to medication, patients should also be given a certain degree of humanistic care to help patients adjust their emotions and reduce psychological pressure. In addition, according to the difference of patients' physique, inform patients of their life, diet and other matters needing attention, improve their symptoms through dietary therapy, pay attention to nutritional balance, usually appropriate to strengthen physical exercise, improve the body's immunity.

**References:**

The innovative development prospect of traditional Chinese and Russian medicine under the background of new era

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Abstract
Traditional medicine were introduced in this paper under the background of new era of innovation and development prospects, in today's world is a world of peace and development, the proposal of "One Belt And One Road" strategic thought in China, and continuously strengthen cooperation between countries. In a win-win cooperation in the new era background, traditional medicine, as an important pillar of the medical and health industry, will take advantage of this opportunity and platform to exert its huge resource advantages, innovation in the inheritance, development in innovation, to promote the new development of traditional medicine, let the world enjoy the new achievements of traditional medicine, let traditional medicine bring forth the new, let traditional medicine to the world. Traditional Chinese and Russian medicine has broad prospects and will develop rapidly and healthily.

Key words: The new age, Traditional medicine, Innovation and development

According to the definition of the world health organization (WHO), traditional medicine (allopathic medicine, complementary therapy, alternative or unconventional medicine) refers to the various medical systems developed in ancient civilized countries before modern medicine, and some famous ones include the traditional Chinese medicine system (including acupuncture) in east Asia and multi-ethnic herbal medicine. Today, China is entering a new era. This new era is about building on the past and building on the past. Countries are becoming more and more connected."One Belt And One Road", as a great political idea and the primary national strategy, provides a new background for the development and innovation of traditional Chinese medicine and a new opportunity for foreign exchanges. In such a new era, traditional medicine ushered in a new development space of inheritance and innovation.

First of all, the cooperation between China and Russia should be strengthened in three aspects: clinical, scientific research and education, university contact should be established, cooperative education should be carried out, Chinese and Russian students should be sent to each other for study and exchange, and cooperation platform should be built to lay a solid foundation for the development and application of traditional medicine. A series of important traditional Chinese medicine research centers and scientific research centers will be established to promote the innovative development of traditional medicine culture through cooperation.

Second, promote combination of traditional medicine and modern medicine, make a clear definition of the safety and efficacy of traditional medicine, help further promotion and development of traditional medicine, we should, in accordance with the "inheritance and development of good, make good use of traditional medicine, with open inclusive mentality to promote better integration of traditional medicine and modern medicine, advancing with The Times, pioneering and innovative" the direction to shoulder the responsibility and missions on its heritage of traditional medicine. Based on the traditional clinical treatment and medical disciplines development, further strengthen pharmacology can improve the modern understanding of traditional Chinese medicine, promote the integration of traditional medicine and modern medicine, the drug pharmacology, mechanism and enhance the understanding of traditional Chinese medicine clinical applications, further form the medical science through the fusion of Chinese and western academic system.

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The WHO has made it clear that it will support traditional medicine in policies, regulations, industry standards and capacity building to accelerate the development of traditional medicine. The adoption of the resolution provides policy support and institutional guarantee for the development of traditional medicine. Will further promote its inheritance and development, strengthen its exchanges and integration with modern medicine.

New era, new opportunities, new prospects, between China and Russia should continue to strengthen cooperation, seize opportunities, promote the development of the traditional medicine innovation, perfect the development way, promote combination of traditional medicine and modern medicine, make more reasonable and healthy development of the traditional medicine to push Chen and new, traditional medicine for traditional medicine in the world.

References:

Clinical Study on Improving Cardiac Function of Sepsis Patients with Myocardial Injury by Huaxian Capsule

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Abstract:
Sepsis is the main reason for the body to lose control of infectious bacteria and other diseases, and the host reaction caused by sepsis leads to further clinical syndrome with life-threatening organ dysfunction as the main manifestation[1]. Recent studies have suggested that myocardial injury is one of the most serious complications of sepsis[2]. Studies have shown that cardiac insufficiency is easily associated with sepsis and even severe heart failure[3]. The occurrence of myocardial injury in sepsis indicates poor prognosis. Despite great achievements in anti-inflammatory drugs and symptomatic treatment, myocardial injury in sepsis often leads to disability or even death of patients, which is an important cause of mortality[4]. Therefore, overcoming sepsis has become a major challenge for clinical medical workers. With the in-depth development of medicine and the continuous progress of modern science and technology, myocardial injury in sepsis has become a hot topic in the research field, and relevant researches on the treatment of sepsis by traditional Chinese medicine have also received corresponding attention. Therefore, the treatment of integrated traditional Chinese and western medicine has been widely recognized and applied in clinical practice. According to many years of clinical experience in our department, the application of traditional Chinese medicine huaxian capsule and the application of drugs of invigorating qi, nourishing yin, promoting blood circulation and detoxifying can give full play to the characteristics of multi-target therapy, thus making up for the deficiency of western medicine in treating sepsis.

Key words: Huaxian capsule; Sepsis; Myocardial injury; Qi deficiency and blood stasis syndrome.

Objective:
Through clinical observation of septic myocardial injury patients, the effect of huaxian capsule on cardiac function of septic myocardial injury patients (qi deficiency and blood stasis syndrome) is discussed, which provides new ideas and methods for the treatment of septic myocardial injury patients with traditional Chinese and western medicine.

Materials and methods
68 patients who met the diagnostic criteria were selected and divided into control group and experimental group (34 cases in each group) according to the random number table method after entering the department. In addition, according to the 2016 edition of the "Guidelines for the
Treatment of Sepsis”, both groups of patients are routinely given comprehensive western medicine treatment. Patients in the experimental group were treated with chemical fiber capsules plus western medicine, while patients in the control group were treated with western medicine plus warm water. Peripheral venous blood was drawn from both groups before and on the 3rd and 7th days after medication, and the indexes of both groups were detected and compared. Before treatment and on the 7th day after treatment, all patients were examined by bedside cardiac color Doppler ultrasound. At the same time, SOFA score, APACHE-II score and TCM syndrome score of patients before, on the 3rd and 7th days after treatment were recorded and analyzed. The hospitalization days (d) and 28-day mortality (%) of the two groups were compared.

**Results and discussion**

Before treatment, there was no significant difference in gender, age and APACHE-II score between the two group (P>0.05), which was comparable. On the 3rd and 7th days after treatment, PCT, TNF-α, CRP, BNP, cTnl, CK-MB, Lac index, SOFA score, APACHE-II score and TCM syndrome score in the experimental group were significantly lower than those in the control group, and the difference was statistically significant (P<0.05). In addition, the detection value of huaxian capsule on the 7th day after treatment was obviously improved compared with the detection value on the 3rd day, and the difference was statistically significant (P<0.05). The changes of LVEF, LVEDD, CO, E/A in the experimental group were significantly different from those in the control group (P<0.05). The duration of ICU stay in the experimental group was shorter than that in the control group, and the difference was statistically significant (P<0.05). after 28 days, the mortality rate of the patients in the experimental group was significantly lower than that in the control group, and the difference was statistically significant (P<0.05).

Through this test, the following conclusions can be drawn: 1. Chemical fiber capsule can improve the cardiac function of septic myocardial injury (Qi deficiency and blood stasis type) patients. 2. Huaxian capsule can effectively improve PCT, TNF-α, CrP, BNP, cTnl, CK-MB, Lac, AST, ALT, BUN and CR index levels of septic myocardial injury (type of qi deficiency and blood stasis). 3. huaxian capsule can improve LVEF, LVEDD, CO, E/A index level of patients with sepsis myocardial injury (qi deficiency and blood stasis type). 4. huaxian capsule can improve SOFA score, APACHE-II score and TCM syndrome score of patients with sepsis myocardial injury (qi deficiency and blood stasis type). 5. huaxian capsule can shorten the hospitalization time of septic myocardial injury (qi deficiency and blood stasis type) and improve the 28-day survival rate of septic myocardial injury patients.

**Encircling Electroacupuncture promote angiogenesis after IRIPI via VEGF/VEGFR2 pathway**

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**Abstract**

**Objective**
To determine whether EEA promote pressure heal healing by promoting blood vessels to improve local blood perfusion, and further to determine whether VEGF/VEGFR2 signaling pathway is a mechanism for electroacupuncture to promote angiogenesis.

**Materials and methods**
The mice with IRIPI model were randomly divided into vehicle, EEA, Cabozantinib and EEA&Cab group. The sore surface features of the PI were recorded on 1, 3, 5, 7, 9, and 12 days. The blood flow perfusion was measured by laser Doppler flow perfusion imager. The HE staining method was used to observe each group. The morphological pathological changes of the sore skin were observed by immunohistochemistry. The protein expression of VEGFR2 in the wound tissue
was detected by western blot. The protein levels of VEGF and VEGFR2 in wound tissue were detected by western blot. The mRNA level of VEGF and VEGFR2 in wound tissue was detected by realtime PCR.

Results and discussion

1. Electroacupuncture can promote angiogenesis in ischemic reperfusion PI

In the EEA group and the Vehicle group, the sore surface color was deep, the wound margin was early, and there was less exudation around the sore surface. After 7, 9 and 12 days of EEA intervention, the area of the sore surface was significantly lower than the Vehicle intervention (p<0.05). After 5 and 7 days, the local blood perfusion was significantly lower than that of the Vehicle group (p<0.05). At the same time point, EEA promoted epidermal regeneration of the wound margin, and the vascular cavity containing red blood cells in the dermis increased.

2. Electroacupuncture can promote the expression of VEGF and VEGFR2

The positive expression of VEGFR2 in the dermis of the wound tissue was significantly higher than that in the Vehicle group after 3, 5, 9 and 12 days of intervention (p<0.05). The relative expression of VEGF and VEGFR2 protein reached the peak after 3 days of EEA intervention, and was significantly higher. In the Vehicle group (p<0.05), the relative expression of VEGF protein was significantly lower than that of the Vehicle group at 5, 7, 9, and 12 days after intervention (p<0.05). The relative expression of VEGFR2 protein was significantly lower than Vehicle after 7 and 9 days of intervention. The relative expression levels of VEGF mRNA and VEGFR2 mRNA reached the peak after 7 days of intervention. The relative expression of VEGF mRNA was significantly different from the Vehicle group after 5 and 7 days of intervention (p<0.05). VEGFR2 mRNA The relative expression levels were significantly different (p<0.05) from the Vehicle group after 3, 5, and 7 days of intervention.

3. Electroacupuncture can activate VEGF/VEGFR2 pathway to promote angiogenesis in ischemic reperfusion PI

At the same time point, Cabozantinib had a lighter sore surface than the Vehicle group, a late scarring of the wound margin, and more exudation around the sore surface. The area of the sore surface was significantly higher than that of the Vehicle intervention after 5 days, 7 days, 9 days, and 12 days of Cabozantinib intervention. p<0.05), the local blood perfusion was significantly lower than that of the Vehicle group (p<0.05). At the same time point, the E&C group had a deeper sore surface color than the Cabozantinib group, the wound margin was early, and there was less exudation around the sore surface. E&C After 7 days, 9 days, and 12 days, the area of the sore surface was significantly lower than that of Cabozantinib (p<0.05). The local blood perfusion was significantly lower after 5, 7 and 9 days of E&C intervention than the Cabozantinib group (p<0.05).

Cabozantinib It can inhibit the repair of the epidermal layer of the wound edge tissue, inhibit the formation of vascular cavity in the dermis, and increase the epidermal repair and dermal lumen increase after EEA intervention. The mean optical density of VEGF2 in the wound tissue of Cabozantinib was significantly lower than that of the Vehicle group after 5 days and 9 days (p<0.05), while the VEGFR2 of the wound tissue was found after 3 days, 7 days, and 9 days after the EBE intervention on the basis of Cabozantinib. The average optical density was significantly higher than that of the Vehicle group (p<0.05). The relative expression of VEGF protein was significantly lower than that of the Vehicle group after 5 days of Cabozantinib intervention (p<0.05). The relative expression of VEGF protein was significantly higher after 5 and 12 days of Cabozantinib combined with EEA intervention. In the Cabozantinib group (p<0.05), the relative expression of VEGFR2 protein was significantly lower in the Cabuzantinib after 1, 5, 7 and 9 days than in the Vehicle group (p<0.05). The relative expression of VEGFR2 protein was significantly higher after 5, 7 and 12 days of intervention. In the Cabozantinib group (p<0.05), the relative expression level of VEGF mRNA was significantly lower after 3, 5, 7 and 9 days of Cabozantinib intervention than the Vehicle group (p<0.05), and the relative expression of VEGF mRNA was increased after 9 days of EAB intervention on the basis of Cabozatininib. There was a significant difference in the Cabozantinib group (p<0.05). The relative expression level of VEGFR2 mRNA was significantly lower after 1, 3, 5, 7 and 9 days of Cabozantinib intervention than the Vehicle
The relative expression level of VEGFR2 mRNA was significantly different from that of the Cabozantinib group after increasing the EEA intervention on the tinib for 1, 7, and 9 days (p<0.05).

As a result, Electroacupuncture can promote the expression of VEGF and VEGFR2 in the surface of pressure-induced sore tissue induced by ischemia-reperfusion through VEGF/VEGFR2 signaling pathway, thereby promoting angiogenesis in the wound tissue and improving blood perfusion in local tissues. Amount that promotes healing of sore face contractions.

**Review of Acupuncture for Irritable Bowel Syndrome**

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**Abstract**

Irritable bowel syndrome is a complex functional gastrointestinal disease. The incidence rate is increasing year by year, it often accompanied by mental and psychological symptoms, which seriously affect the quality of life of patients. Acupuncture treatment for this disease has a certain effect, related literatures in recent years had been reviewed in this article.

**Key words:** Acupuncture, irritable bowel syndrome, review

**Objective**

To provide patients with better treatment to improve their quality of life and provide a reference for further research.

**Materials and methods**

In this essay, we reviewed the related literatures in recent years, summarized the clinical research status and mechanism of acupuncture treatment for this disease, and analyzed the therapeutic advantages of acupuncture.

**Results and discussion**

Related articles were bring in, including the clinical and experimental studies. In these literatures we have obtained four conclusions. First of all, acupuncture can effectively alleviate abdominal pain, abdominal distension, anxiety and other symptoms, and has a certain long-term effect. And the acupuncture treatment for Irritable bowel syndrome include close-distance acupoints, long-distance acupoints, the combination of the anterior-posterior points and specific acupoints, all of these methods can help relieve clinical symptoms. In addition, simple acupuncture or combination with drugs, moxibustion, massage and acupoint application all had received satisfactory treatment effects. At last, the mechanism of acupuncture to Irritable bowel syndrome is closely related to the regulation of gastrointestinal motility, visceral hypersensitivity, brain-gut axis, and immune system.

**References:**


Acupuncture and moxibustion combined with oxygen therapy for acute altitude sickness: case report

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Abstract

The mountain sickness response is actually a kind of stress response that the human body produces due to self-protection. It is an acute hypoxic stress response caused by a series of climatic characteristics mainly caused by oxygen deprivation which is caused by thin oxygen after entering into high altitude areas from low altitudes. Dizziness, headache, palpitation, shortness of breath, tightness of the chest, difficulty breathing, nausea, vomiting, cyanosis, etc. Most people are able to tolerate altitude sickness and can relieve themselves without treatment. In this case, one case of altitude sickness was treated with acupuncture and oxygen therapy.

Key words:Acute mountain sickness;Acupuncture and moxibustion;Oxygentherapy;Case analysis

1. Clinical data

The patient was a 43-year-old Han nationality. She was physically fit and was first admitted to Tibet. She was taken by a car at a low altitude in Nepal to enter Geelong County, Tibet (41,000 m) at Geelong County). Later, there was an altitude sickness but the body was not changed or Damage, its clinical manifestations of headache, dizziness, palpitation, shortness of breath, difficulty
breathing, chest tightness, lip and fingernail cyanosis, loss of appetite, blood pressure 160/110mmHg.

2. Auxiliary examination: Oximeter detection: acute altitude sickness rate of up to 120 beats/min, blood oxygen saturation of 50% to 70%.

3. treatment

3.1 Oxygen Therapy: First give the patient a high concentration of oxygen 6L/min for 20 minutes, then switch to 3L/min for 20 minutes, then gradually reduce the oxygen intake time, continuously reduce the oxygen concentration, change the oxygen concentration once every 20 minutes, From 3 L/min, 2 L/min, 10 L/min until stopped without use (decrease rule), repeated continuously for 3 days.


3.3 Operation: Baihui oblique stabbing 0.5-1 inch, Sishencong oblique stabbing 0.5-0.8 inch, Neiguan straight stabbing 0.5-1 inch, Zusanli stabbing 1-1.5 inch, Shenmen piercing 0.3-0.5 inch technique Using the plug and transfer method to supplement the method

4. Treatment effect

After 3 days of treatment, oxygen was stopped and the patient was significantly improved. There was also a slight chest tightness. The blood pressure was slightly higher and the other symptoms completely disappeared. Continue to acupuncture treatment for 3 days, the patient is basically cured.

5. Results and discussion

Oxygen therapy is one of the main methods for the treatment of acute altitude sickness. After inhalation of oxygen, it can relieve the oxygen deficiency of the body, and through the alternate supply of different concentrations of oxygen, the body's adaptability to the hypoxic environment at high altitude can be improved and the purpose of the cause treatment can be achieved. According to Cao Hongfei [1] clinical trials, oxygen therapy can reduce the pressure of the heart and lungs and improve the body's hypoxic state. Heart palpitations have a very good effect

Acupuncture is effective in alleviating acute altitude sickness, and has no side effects. Among them, Baihui acupoints are also known as Sanyang Wuhui. They are the foot bladder, foot Shaoyang gallbladder, hand Shaoyang triple burner and foot yin yin. The point where the liver and the Dumb meet, can access the yin and yang contexts, and the consecutive body-menstrual points play an important role in regulating the yin and yang balance of the body. The "Acupuncture and Moxibustion Tribune" cloud: "Baihui has all diseases and diseases, and the body has four points of the most urgent, four hundred and four diseases can be treated, Baihui cover one also." Modern research by acupuncture the Baihui not only stimulate the cerebral cortex The reflexes regulate autonomic nerves, enhance the excitability of relevant parts of the cerebral cortex, and can also accelerate local blood circulation to improve the body's metabolism. Baihui has a unique site and a wide range of meridians and connections, so it has its special functional utility [2]. Shenmen point is the point of the hand Shaoyin Heart Sutra and the original point. It has the effect of tranquilizing the nerves and opening the phlegm. For the palpitation caused by the hypoxia, according to the study of other people, the acupuncture of Shenmen makes the heart rate variability increase. Improve the adaptability of the heart [3]; Neiguan Point is a hand-curve heart peritoneal meridian point, contact Sanjiao, pass through the Renmai, meet the Yin-dimensional dimension, benefit the mind and calm qi and blood circulation, clear the heart and veins, and reduce the risk Other effects. Since the pericardium is located in the chest, it is connected to the triple burner and is directly connected to the cardiothoracic and lung. Therefore, Neiguan points have an important role in the treatment and prevention of cardiovascular and respiratory diseases [4]. Acupuncture at Neiguan can strengthen myocardial contractility, improve cardiac output, reduce myocardial oxygen consumption, and increase blood oxygen supply. "Tong Xuan refers to the Fu" said: "In the three years, but the five labor of the lean lean ... chilly kidney failure, take the foot above the Yangming." Zusanli for stomach Meridian, stomach for the sea of water valley, metamorphosis Qi blood, all organs are dependent on the support. Therefore, to stimulate Zusanli, it can make up for
the loss of organs, pass through the vitality, lift the air. Therefore, Zusanli not only treats epigastric diseases, but also is a key point for strengthening one's health.

At present, there are more and more researches on altitude sickness treatment, but most of them focus on the direction of medicine. There is relatively little research on acupuncture and moxibustion in the treatment of acute altitude sickness. The official literature is rare, and acupuncture is the motherland medicine. As an important part of the development of the millennium, its theoretical system has become more sophisticated and therapeutically effective conditions have increased [5]. Acupuncture and moxibustion combined with oxygen therapy for acute altitude sickness are easier and more effective than other therapies. Smaller, can further shorten the reaction time, improve the quality of life at the plateau, it is worth to promote the use of clinical, but the clinical trials of acupuncture combined with oxygen therapy for acute altitude sickness is relatively rare, clinical reports are rare, lack of uniform, quantitative assessment Standards and indicators need further verification and improvement.

References:

Clinical Research Progress of Acupuncture and Moxibustion Effect on Side Effects of Chemotherapy

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Abstract
The relevant literature about the effect of acupuncture treatment on side effects after chemotherapy for the last 10 years was reviewed, and the therapeutic effects of acupuncture on the symptoms such as gastrointestinal reaction, peripheral neuropathy, bone marrow suppression and immunosuppression after chemotherapy were discussed, and the shortcomings of the existing literature were summarized, and the ideas and reference for future research were provided.

Keywords: Acupuncture and Moxibustion, Chemotherapy, Side Effects, Review

In recent years, the rapid development of society lead to the increasing incidence of cancer. Currently, chemotherapy is one of the main methods to treat cancer, although chemotherapy can reduce tumor for patients with pain, its side-effects also seriously affects the quality of life of patients and prognosis. In recent years, a large number of clinical studies have found that acupuncture is an effective means for the treatment of side effects of chemotherapy. I read the relevant literature about the side effects of acupuncture treatment after chemotherapy for the last 10 years, and the following are summarized as follows.

1 Gastrointestinal reaction
The clinical selection of Zusanli acupuncture¹ as experimental group, results showed that the effective rate of experimental group was better than the control group (P<0.05). To study the effect
acupuncture for nausea and vomiting after chemotherapy, patients included 138 patients with suspended moxibustion on Zusanli and Sanyinjiao, the total clinical efficiency of 99.28%. To observe the clinical effect of acupuncture and moxibustion in the treatment of gastrointestinal reaction after chemotherapy, moxibustion Zhongwan and acupuncture Zusanli as treatment group, the curative effect of the treatment group compared with the control group there were significant differences (P<0.05). Huang Yinfeng observe the influence of acupuncture combined with acupoint injection on vomiting after chemotherapy. The results showed that the total effective rate of the observation group was 93.09%. Zhu Weijian use of ear vagus nerve stimulation therapy. The results showed that two groups had statistical significance (P<0.05).

Peripheral neuropathy

Yan Yujie acupuncture peripheral neuropathy of chemotherapy treatment, he found that the effect of acupuncture group is superior to the western medicine group (P=0.003). acupuncture in combination with oral administration and external application of Chinese medicinal herbs treat peripheral neuropathy of chemotherapy treatment. The results showed that two groups had statistical significance (P<0.05). Acupoint injection treat peripheral neuropathy of chemotherapy treatment. The results showed that two groups had statistical significance (P<0.05).

Myelosuppression

Shen Qun acupuncture combined with moxibustion treat leukocyte reduction after radiotherapy and chemotherapy. Her total efficiency is 90%. Acupoint injection in the treatment of leukinemia after chemotherapy, the difference of two treatment was statistically significant (P<0.05). The pain score of the experimental group was significantly lower than that of the control group (P<0.05).

Immunosuppression

Acupuncture treat immunosuppression after chemotherapy, after comparison, the difference was found to be statistically significant (P < 0.05).

Prospects and problems

I read through the relevant literature found that although the side effects of clinical acupuncture treatment of chemotherapy, but recent clinical studies also exist the following problems: the clinical selection of points: for a variety of side effects after treatment with acupuncture, Zusanli and Sanyinjiao are three points, compared with the single point selection, and more for the local check acupuncture points with less. Adjuvant therapy: most of the therapeutic methods used in literature only include one needle, and there are few treatments for acupuncture, injection, acupoint catgut embedding, moxibustion, electroacupuncture, and other acupuncture and moxibustion. Third, the evaluation of curative effect: for patients with peripheral neuropathy after chemotherapy, the evaluation is mainly based on the improvement of patients' subjective symptoms, and there is little definite diagnosis effect evaluation. In addition, there are few follow-up follow-up cases in the clinical research literature on the patient's condition, and the treatment of the disease is one-sided. The clinical observation of the literature about this disease, mostly in simple controlled clinical trials, few randomized clinical trials of multi center and large sample, should increase the number of multi center clinical trials, which in order to study the effect of acupuncture on adverse reaction after chemotherapy and bring more help and promote.

Reference
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Effect of Acupoint Thread Embedding on Cognition and PI3K-AKT Signaling Pathway in Epileptic Rats

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Abstract Key words
Lithium chloride-pilocarpine; Acupoint embedding; Epileptic rats; Cognition; PI3K-AKT

Objective
To observe the effects of acupoint embedding on cognition and PI3K-AKT signaling pathway in epileptic rats.

Methods
80 SD male rats were randomly divided into blank group, model group, western medicine group and embedding group, with 20 rats in each group. The epilepsy model was established by intraperitoneal injection of lithium chloride-pilocarpine. After successful modeling, the
corresponding interventions were performed for 28 days, and the water maze test was performed on the 25th to 28th day. The rats in each group were sacrificed on the 28th day of intervention. TUNNEL staining was performed to observe the morphological changes of hippocampal neurons in each group. The expression of PI3K-AKT signaling pathway related factors PI3K and Akt protein was detected by Western Blot.

**Results**

1. The results of Morris water maze test showed that compared with the blank group, the latency of the model group was significantly increased. The number of crossing platforms in the model group was significantly less than that in the blank group \((P<0.05)\). Compared with the model group, western medicine The latency of the rats in the group and the embedding group was significantly shorter than that in the model group, and the number of crossing platforms was significantly increased \((P<0.05)\).

2. The results of TUNNEL staining showed that the number of TUNNEL staining positive cells in the hippocampus of the model group was significantly increased compared with the blank group \((P<0.05)\). The number of TUNNEL staining positive cells in the hippocampus was significantly higher than that in the model group after Western medicine and acupoint embedding. \((P<0.05)\).

3. The expression of PI3K and Akt protein in Western Blot assay showed that the expression of PI3K and Akt protein in the model group, the embedding group and the western medicine group increased rapidly after the seizure. The PI3K and Akt proteins were interfered by western medicine and acupoint embedding, and there were different degrees of expression decline.

**Conclusion**

Acupoint embedding can activate neuronal apoptosis by activating PI3K-AKT signaling pathway in epileptic rats, reducing hippocampal neuronal damage and improving cognition.
Objective
To observe the clinical efficacy and recurrence of scalp acupuncture combined with Jiaji points in the recovery of optic neuromyelitis lineage disease.

Materials and methods
Sixteen patients with recovery period of optic neuromyelitis lineage disease who were admitted to the Department of Acupuncture and Moxibustion, the Second Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine, from March 2016 to March 2019, were retrospectively reviewed. In the study, 16 patients were divided into a treatment group and a control group according to the randomized controlled method, including 8 in the treatment group and 8 in the control group. In the control group, 30 mg of prednisone was given orally immediately after the acute phase, and a combination of azathioprine and 2.5 mg/kg was given. The treatment group was treated with the needle-needle movement area and emotional area on the basis of the same medication in the control group. The sacral area was treated with Jiaji points to observe the clinical efficacy and recurrence of the patients. RESULTS: After treatment, compared with the control group, the treatment group was more effective and the improvement of disability status was significantly better than the control group (p<0.05). The treatment group was significantly less dependent on hormones during the recovery period than the control group. The group recurrence rate was significantly lower than the control group.

Results and discussion
The total effective rate of the treatment group was 62.5%; the total effective rate of the control group was 66.7%. The two groups of data were analyzed by χ2 test, and the difference between the two groups was statistically significant (P<0.05). The number of preoperative treatments in the two groups of patients was analyzed by rank sum test, P>0.05, indicating that the difference was not statistically significant, and the two groups were comparable. The difference between the two groups of NMO patients before and after treatment, the rank difference test, the difference was statistically significant (P <0.05), suggesting that the treatment effect of both groups were significantly improved. There were more cases in the two groups of NMO patients before and after treatment than in the control group. The difference was statistically significant (P<0.05), suggesting that the treatment group was significantly better than the control group. In the treatment group, the dose reduction was significantly greater than that of the control group as the course of treatment increased.

As a result, The treatment of optic neuromyelitis spectrum disease recovery period with scalp acupuncture combined with Jiaji points has significant curative effect on improving neurological status, improving quality of life, reducing hormone dependence, reducing the recurrence rate and disability rate of the disease. It is worthy of clinical application.

References:
Recent Advances in the Treatment of Periarthritis of Shoulder by Acupuncture Combined with Other Methods

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Abstract: Based on the literature analysis of this year's acupuncture treatment of periarthritis of shoulder, this paper introduces several clinical effective treatment methods combined with acupuncture and moxibustion, including massage, traditional Chinese medicine, fire needle, etc., there are many clinical treatment methods, with the progress of acupuncture treatment of periarthritis of shoulder, the main method is also worth studying. The purpose of this paper is to provide reference for the clinical treatment and research of acupuncture treatment for periarthritis of shoulder.

Key words: acupuncture, periarthritis of shoulder, review

Periarthritis of shoulder in clinic is around shoulder joint inflammation, is a kind of clinical common shoulder joint of aseptic inflammation, mainly due to the patients with the increase of the age, body function decline, and the shoulder joint and surrounding tissue degenerative diseases, or the body strain state for a long time and the neck shoulder muscles, tendons, ligaments, fascia tissue pathological changes, such as the main symptoms are sore shoulder and shoulder joint activities a series of clinical syndrome, severely restricted seriously affects patients' daily life and work. At present, there are many clinical methods to treat periarthritis of shoulder. This paper mainly summarizes the literature of acupuncture combined with other methods to treat periarthritis of shoulder, so as to provide reference for clinical work.

1. Acupuncture combined with massage

Wang Qian¹ used acupuncture combined with massage to treat 42 patients in clinical practice, the basic techniques include: point, knead, press, rub, lift, pull, shake, pull and stretch, which can relax tendons and activate collaterals, activate blood circulation and relieve pain, improve joint function, and promote the recovery of shoulder joint function. Through comparison, it was found that the combined treatment was significantly better than acupuncture and moxibustion, and the difference was significant (p<0.05); Liu aihua² combined massage with acupuncture and moxibustion, using rolling, rubbing, pressing, shaking, pulling, pulling, rubbing and other techniques to relax muscles and blood circulation, relieve muscles, relieve adhesion, relieve spasm and relieve pain. The total effective rate reached 96.6% after 3 consecutive treatment courses.

2. Fire needle treatment

Luo Lan³ used fire needle combined with the theory of meridian tendon for treatment and found that fire was better than acupuncture and western medicine in improving the daily living ability of patients with periarthritis of shoulder. Chen Yingchun⁴ searched for the "tendon node" in front of the shoulder according to the twelve meridian route and marked it. He marked the good "tendon node" with a fire needle, and pricked each tendon node with three needles (one needle in the head, one needle in the middle and one needle in the tail). He received treatment once every three days and received 10 times for one course of treatment.

3. Acupuncture combined with traditional Chinese medicine

On the basis of acupuncture and moxibustion, traditional Chinese medicine package hot compress, massage therapy, according to the etiology and pathogenesis of periarthritis of shoulder, Chen Zhu⁵ adopted the internal administration of "yiqi heyin, dispelling wind and defeating wet" and "juanbi decoction". The prescription composition: honey moxibustion huangqi 15g, angelica 9g, qiang huo 12g, dangshen 10g, baicalin 10g, pinellia 10g, guizhu 15g, white peony 20g, dangshen 10g, ginger 12g, 3 dates, piece turmeric 15g, gyrobolas 15g, kudzu 15g, processed licorice 10g. How to
take: decocted in water, 1 dose /d, divided in morning and evening, generally taken for 1 to 2 weeks, during which the patient's condition changes with the symptoms. The total effective rate was 98.3% in 58 patients.

4. **Warm acupuncture and moxibustion**

Zhang xintian\(^7\) used warm acupuncture and joint loosening to coordinate the treatment, which can play a role in activating tendons, removing dampness and cold, relieving pain, improving skin penetration and absorption ability, and making the drug fully absorbed. Warm acupuncture and moxibustion can improve the effect of joint loosening; Wang Yanyan\(^8\) using acupuncture and moxibustion in tired day find out, the method of selection under the guidance of meridian acupoints for acupuncture treatment, and the local shoulder Yu, shoulder, shoulder their virginity before acupuncture moxibustion, total effective rate is 97.56%.

Acupuncture treatment of periarthritis of shoulder, various methods have a certain effect, the total effective rate is 85 % ~ 100 %. Acupuncture can have a good curative effect on the patients with cold and damp deficiency. If the cold evil is more prosperous, then add moxibustion or warm acupuncture, especially for older, weak physique; If the body is ok, you can use fire needle therapy. Periarthritis of shoulder is a disease that can be relieved by itself, and the treatment process often has repeated, so it is necessary to carry out long-term observation, objective evaluation of the effect of acupuncture on this disease.

**Reference**

ABSTRACT  Objective  To observe the clinical effect of electroacupuncture on benign prostatic hyperplasia (BPH) with urinary tract obstruction and explore the effectiveness of electroacupuncture therapy. Methods  Forty patients were randomized into an electroacupuncture group and a control group, twenty cases in each one. In the electroacupuncture group, acupuncture was applied to Zhongji(CV3), Qugu(CV2), Da He(KI12) and Heng Gu(KI11), and treated with electroacupuncture, six times a week. In the control group, Tamsol Hydrochloride Sustained Release Capsules were prescribed for oral administration, 0.2mg each time, one time a day, for a four weeks continuously. Results  The improvements in the electroacupuncture group were much more obvious than in the control group. The total effective rate was 90% in the electroacupuncture group, which was better than 55% in the control group. Conclusion  Electroacupuncture is effective in treating benign prostatic hyperplasia with urinary tract obstruction, which improves the symptoms of urinary obstruction, reduce the residual urine volume and increase the maximum urinary flow rate.

Key words  Benign prostatic hyperplasia; Urinary tract obstruction; electroacupuncture therapy; Zhongji(CV3); Qugu(CV2); Da He(KI12); Heng Gu (KI11)

Prostatic hyperplasia is a common physiological change in older men, when it has symptoms of urinary obstruction including hesitation in urination, laborious urination, fine urine line, frequent night urination, it is also known as benign prostatic hyperplasia (BPH) [1]. The authors used electroacupuncture to treat benign prostatic hyperplasia, control group drug selected Tamsulosin hydrochloride sustained release capsule which is recognized by the majority of patients. The above two treatments were compared, and the report is as follows now.

1  Clinical Materials
1.1  General materials
A total of 40 BPH patients were selected from the second affiliated hospital of Heilongjiang University of traditional Chinese medicine in the studio of Gao Weibin, and it is randomly divided into two groups: twenty cases in electroacupuncture group and twenty cases in control group. The electroacupuncture group: the oldest is 69, the youngest is 52 and the average is (63.20±3.72); The control group: the oldest is 68, the youngest is 53 and the average is (61.36±4.29). The comparison of baseline data between the two groups: there was no significant difference (P > 0.05), and it is comparable.

1.2 Diagnostic criteria
According to the Diagnostic Criteria of Benign Prostatic Hyperplasia (BPH) in the Chinese Guidelines [2] for the diagnosis and treatment of urological diseases. ① Men over 50 years old have urinary obstruction symptoms such as hesitancy, laborious urination, thinning of urine line, weakness of urine flow, prolonged urination time and dripping of urine at the end; ② A digital examination of the rectum reveals an enlarged prostate; ③ Maximum urine flow rate < 15mL/s; ④ Residual urine volume ≥ 50ml; ⑤ Color ultrasound of the prostate showed an increase in prostate volume.

2  Treatment method
2.1 The electroacupuncture group
（1）Prescription
Zhongji(CV3)(Lower abdomen, anterior midline and 4 inches below the navel)
Qugu(CV2)(Lower abdomen, anterior midline and 5 inches below the navel)
Dahe(KI12)(Lower abdomen, 4 inches below the navel and 0.5 inches beside the anterior median line) Two acupoints are on the left and right sides
Henggu(KI11)(Lower abdomen, 5 inches below the navel and 0.5 inches beside the anterior median line) Two acupoints are on the left and right sides
（2）Operation
The patient is in a supine position. Andy brand disposable sterile acupuncture needle 0.35×60mm was selected for routine disinfection, and acupuncture Zhongji(CV3), Qugu(CV2), bilateral Dahe(KI12) and bilateral Henggu(KI11) points were performed. The acupuncture needle is inclined to the pubic symphysis about 2-3cm and then connected with Great Wall brand KWD-8081
universal pulse electrotherapy instrument. Zhongji (CV3) connects Qugu (CV2), Dahe (KI12) connects Henggu (KI11) and select dilatational wave for electroacupuncture. The patient's tolerance level is the best and the acupuncture needle transmission to the vulva is preferred. The acupuncture needle was kept for 30 min, once a day, rest once after 6 times, and the treatment was continued for 4 weeks.

2.2 The control group

Oral Tamsulosin Hydrochloride Sustained Release Capsule (Astellas Pharma Inc NMPN H20000681) Specifications: Take 0.2 mg/tablet, one tablet at a time, once a day, for 4 weeks.

3 Observation on Curative Effect

3.1 Efficacy evaluation criteria

The Criteria for the Diagnosis and Efficacy of Diseases of Traditional Chinese Medicine [3] issued by the state administration of traditional Chinese medicine was formulated. Cure: Symptoms disappear, urination is unobstructed, prostate examination is normal or significantly reduced, no residual urine, or I-PSS is reduced by more than 90%; Markedly effect: symptoms were significantly improved, urination was improved, residual urine was reduced by 61% to 90%, or I-PSS was reduced by 51% to 90%; Effective: symptoms were improved, urination was slightly improved, residual urine was reduced by 20%-60%, or I-PSS was reduced by 20%-50%; Ineffective: there were no changes in symptoms, signs, residual urine and I-PSS before and after treatment.

3.2 Therapeutic results

Comparison of clinical efficacy between the two groups (see Table 2)

<table>
<thead>
<tr>
<th>group</th>
<th>cases</th>
<th>cure</th>
<th>markedly effective</th>
<th>effective</th>
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<td>6 (30.0)</td>
<td>5 (25.0)</td>
<td>2 (10.0)</td>
<td>18 (90.0)</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>2 (10.0)</td>
<td>3 (15.0)</td>
<td>6 (30.0)</td>
<td>9 (45.0)</td>
<td>11 (55.0)</td>
</tr>
</tbody>
</table>

Note: A: the electroacupuncture group; B: the control group

Compared with control group, 1) P < 0.01.

4. Discussion

Prostate hyperplasia in ancient times in the Longbi. In clinical practice, TCM divides the etiology and pathogenesis of BPH into six categories: bladder dampness and heat pattern, lung heat and qi depression pattern, phlegm and dampness stagnation pattern, spleen qi deficiency pattern, fire excess from yin deficiency pattern and kidney Yang deficiency pattern. So far, no definitive conclusion has been reached on the causes of BPH in western medicine. The main symptom of BPH is difficulty urinating. The degree of difficulty in urination is determined by the degree of obstruction and bladder function. In early obstruction, bladder function is strengthened, and detrusor muscle hyperplasia, hypertrophy and collagen deposition occur. Some of them may have detrusor muscle instability, which is the compensatory stage. If the obstruction continues, the compensatory function of the bladder slowly weakens, the detrusor contraction function decreases, and then residual urine occurs [1].

Modern studies have shown that the regulating effect of acupuncture on urination function is mainly related to the peripheral nerve structure of the selected points [4]. The main nerves innervating the bladder are pelvic nerve, inferior abdominal nerve and pudendal nerve. This study is based on professor Gao Weibin's understanding of BPH in modern medicine and its clinical application for many years, and selected Zhongji (CV3), Qugu (CV2), Dahe (KI12) and Henggu (KI11) as therapeutic acupoints.

The prostate is located below the bladder and in front of it is the symphysis pubis, with a plexus of prostatic veins and loose connective tissue between the two. The main artery supply to the prostate comes from the inferior bladder artery. Acupuncture on the four points of Zhongji (CV3), Qugu (CV2), Dahe (KI12) and Henggu (KI11) directly acted on the lesion site [5]. Bilateral Zhongji (CV3), Qugu (CV2), Dahe (KI12) and Henggu (KI11) inclined at a 45-degree
angle along the direction of pubic symphysis and needled 2-3cm, so that the needle tip reached the bladder wall.

In traditional Chinese medicine, Zhongji(CV3) is connected with bladder qi, and Qu gu(CV2) is attributed to ren channal, which has the effect of benefiting qi and channeling channels. These two acupoints are also tonifying kidney yang and peiyuan to help gasification, and they both serve as evidence of obstruction of urination. Different wave combinations of electroacupuncture have different effects on the body. When the voltage is fixed, its therapeutic effect is mainly determined by the frequency of its output electrical pulse. In this study, dilatational wave therapy was adopted, and the waveforms were transmitted alternately by sparse wave and dense wave, with a duration of about 1.5 seconds each. This waveform replaces the single waveform of sparse wave, which produces adaptability to tissues, and can cause muscle contraction, regulate the vasomotor function, promote blood circulation and metabolism, and eliminate inflammatory edema in tissues. Zhongji(CV3) connects Qugu(CV2), bilateral Dahe(KI12) connects bilateral Henggu(KI11) respectively. There are three groups of electroacupuncture. At the same time when the density wave is released, the tip of the needle can directly stimulate the pressure receptors in the bladder wall through the six points, and then impulse the sensory fibers along the pelvic nerve to the sacral pulp. The parasympathetic micturition center excites the sacral pulp, which sends impulses through the efferent fibers of the intrapelvic nerve to the bladder, thereby contracting the bladder detrusor and opening the urethral internal sphincter.

Finally, the urine is excreted. The impulse current produced by the electroacupuncture directly affects the regulation of the prostate and bladder.

It excites the detrusor muscle in the bladder and causes it to contract. It causes the blood vessels around it to constrict and increase blood flow to the prostate. It can also improve the congestion and swelling of the prostate gland, reduce the obstruction of the urethra, effectively inhibit the hyperplasia of prostate tissue, and reduce the size of the prostate gland, so as to improve its urination function. The electro-acupuncture group is not only the local therapeutic effect of acupoint acupuncture, but also the effect of electro-acupuncture dilatancy wave current.

In conclusion, stimulation of local acupoints on the bladder wall by electric acupuncture can effectively promote local blood circulation of the prostate gland and relieve urinary obstruction symptoms of BPH to improve the quality of life of the vast majority of patients. The therapeutic effect of electroacupuncture is much better than that of the control group.

References
Clinical analysis of Fu's Subcutaneous Needling combined with "countercurrent supplement camp" fire acupuncture for pain and anxiety of postherpetic neuralgia

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Abstract

Postherpetic neuralgia (PHN) is a common sequelae of the persistence of neuralgia after the herpes zoster lesion subsides (about 4 weeks later). Varicella zoster virus is latent in the spinal cord and heel ganglion. Due to various causes, the latent virus is activated again and attacks the affected nerve fibers, resulting in pain associated with hyperaesthesia such as knife cutting, electric shock and tearing. Recent studies have shown that the incidence of PHN is positively correlated with age, and the incidence of PHN in herpes zoster patients is up to 10% ~ 70%, which increases with age.

In addition, patients with PHN often have numbness, sensation, and other symptoms such as paresthesia and pain. At the time of the attack, the patient is sleepless, emotionally anxious, causing the body's immune imbalance to increase, resulting in a vicious circle; chronic painful diseases, causing great anxiety, psychological stress and financial burden to the patient and his family due to the long course of the disease. Clinical use of the Fu's Subcutaneous Needling plus peripuration method, combined with fire needle treatment of post-herpetic neuralgia, has achieved satisfactory results in rapid relief of pain and improvement of anxiety.

Keywords: Herpes zoster; neuralgia; the Fire needle; the Fu's Subcutaneous Needling; "Countercurrent supplement camp"; anxiety

Objective

To observe the effect of Fu's Subcutaneous Needling combined with "countercurrent supplement camp" fire acupuncture of postherpetic neuralgia. Materials and methods

165 patients with postherpetic neuralgia were randomly divided into three groups (n=55 per group): the Fu's Subcutaneous Needling group (FSN), the fire needle group (FN) and the Fu's Subcutaneous Needling with fire needle group (FF). The FSN group was treated with the sweeping method and the indwelling catheter for 24 h, the FN group received surrounded needling therapy of Ashi point with the edge of the pain and the FF group received the sweeping method (without indwelling catheter) combined with "countercurrent supplement camp". All the patients were treated once every other day, 5 times a course and 2 weeks in all. The efficacy was evaluated after the treatment.

Results and discussion

It is known that the choice of acupuncture direction has a definite relationship in the treatment of PHN analgesia. Acupuncture at the injury site on both sides of the injured nerve, local inflammation caused by fire needle burns, can increase the number of macrophages to promote cellular immunity and phagocytosis, promote circulation, expand blood vessels, accelerate metabolism, and enhance local non-specific defense Function, play a role in nutrition and nerves, improve the body's immunity. The Fu's Subcutaneous Needling repetitive and reperfusion activities can adjust the spatial structure changes of the soft tissue affected by local myofascial adhesion, improve the local lymphatic circulation and change the local cellular ion channel and facilitate the absorption of inflammatory substances.
Throughout the clinical research process, the author's focus is more on relieving pain and anxiety in patients, in order to improve the quality of life of patients. In this clinical study, more than half of the elderly over 60 years old, after treatment, the patient's HAMA score was significantly lower than before treatment. The pain of acupuncture can divert attention from the pain of the disease. The comprehensive effect of the Fu's Subcutaneous Needling method can greatly alleviate the pain or hyperalgesia symptoms, improve the patient's sleep quality, enhance the patient's immunity, reduce anxiety and other negative emotions.

As a result, the effective rate of VAS score of the FF group, the FSN group and the FF group were 83.3%, 88.7% and 92.7%, respectively. And the scores of Hamilton Anxiety Scale (HAMA) and Patient Satisfaction (PPS) were significantly different than before treatment (P < 0.05). Compared with the FN group and the FF group, the FSN group display significantly different (P<0.05). Combination of the Fu's Subcutaneous Needling with fire needle treatment with Postherpetic neuralgia have advantages of the lessersessions, rapid pain relief and improvement of anxiety.

Thus, compared with the simple fire needle method and the Fu's Subcutaneous Needling method, the use of The Fu's Subcutaneous Needling method for the treatment of PHN is quick and reproducible, which can reduce the HAMA score, significantly improve the anxiety of the patient, and play a beneficial role in the recovery of the disease. To improve patient satisfaction and improve the quality of daily life of patients, it is worthy of clinical reference and promotion.

References:

Clinical Observation on Insomnia (Type of Heart-Spleen Deficiency) Treatment with Old Ten Needles

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ABSTRACTS
Insomnia is a subtype of sleep disorder, which refers to the onset of sleep and sleep maintenance disorders, and obviously hinders the activities of patients during the day. As for the epidemiological study of insomnia, most insomniacs have difficulty sleeping several times as much as normal people. A survey of adults in non-professional institutions showed that 17% of respondents thought their insomnia symptoms were very severe. Although oral medication can improve symptoms quickly, it has many side effects and is easy to repeat, so patients are unwilling
to accept it. Modern research shows that acupuncture has a better effect on insomnia. And the side effects are less, the price is cheaper, and it is easy for patients to adopt. Therefore, we plan to learn from the valuable experience of the predecessors of traditional Chinese medicine, to explore the possibility of acupuncture and moxibustion in the treatment of various types of insomnia. In this article, we do clinical observation on insomnia (type of heart-spleen deficiency) treatment with old ten needles.

**Key words:** insomnia; old ten needles; heart-spleen deficiency

Insomnia is a kind of disease characterized by frequent failure to get normal sleep. Patients may have difficulty falling asleep, or lack of deep sleep, or insufficient sleep time, or even have symptoms such as sleeplessness all night. Relevant scholars found in a random survey that 45.4% of respondents believed that they had experienced different degrees of insomnia in the past month. In another epidemiological survey of insomnia conducted by foreign scholars, it is suggested that one out of every three adults have sleep problems on average. Short-term mild insomnia is less harmful to human body, while persistent and severe chronic insomnia can significantly increase the risk of mental disorders such as anxiety and depression, somatic diseases and drug dependence or abuse. Insomnia patients mostly have a long course of illness, which is difficult to completely cure. It seriously affects the quality of life and mental health of patients, and brings a certain economic burden and great psychological pressure to patients. With the deepening research of traditional Chinese medicine in the field of insomnia treatment, many research results show that acupuncture and moxibustion in traditional Chinese medicine has a significant effect in the treatment of insomnia.

Old Ten Needles is a prescription of acupuncture and moxibustion summarized by Professor Wang Leting, a famous veteran Chinese medicine doctor in Beijing Hospital of Traditional Chinese Medicine affiliated to Capital Medical University, based on the experience of digestive system diseases treatment. Old Ten Needles are consisted by bilateral Zusanli (ST36), bilateral Tianshu (ST25), bilateral Neiguan (PC6) and Shangwan (CV13), Zhongwan (CV12), Xiwan (CV11) and Qihai (CV6), ten acupoints in total. In clinical use, it was found that "Old Ten Needles" group acupoints can be used not only for digestive system diseases, but also for various types of insomnia.

Because Old Ten Needles are intended to tonify the middle Qi and invigorate the spleen, and the main pathogenesis of insomnia with heart-spleen deficiency is spleen deficiency, blood deficiency and psychosomatic dystrophy. Therefore, we chose Old Ten Needles group points to treat insomnia with heart-spleen deficiency, and compared with conventional acupuncture to observe its clinical efficacy.

**Objective**

To explore the effect of old ten needles in the treatment of insomnia (type of heart-spleen deficiency).

**Materials and methods**

60 cases of patients with insomnia (type of heart-spleen deficiency) were randomly divided into two groups. 30 cases in the control group were treated by conventional acupuncture and 30 in the treatment group used old ten needles. Both groups were acupunctured 3 times a week for 4 weeks. And the two groups were scored according to Pittsburgh Sleep Quality Index (PSQI) and TCM syndrome scale score before and after the treatment, and we compared the two groups’ effect.

**Results and discussion**

As a result, the PSQI score, sleep latency and sleep time of the two groups were lower than before, and the difference was statistically significant\((P<0.05)\). And in terms of total PSQI score, sleep latency and sleep time, the difference between the two groups was statistically significant\((P<0.05)\); TCM syndrome scale score of the two groups were lower than before, and the difference was statistically significant\((P<0.05)\); after treatment, there was no significant difference between the two groups, but the total effective rate of the treatment group is more effective than the rate of control groups\(90.00% > 83.33\% \).
Thus, the old ten needles treatment of insomnia (type of heart-spleen deficiency) can significantly improve the clinical symptoms of patients and improve the quality of life better than conventional acupuncture.

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Clinical observation of cross electric acupuncture combined with zhi san acupuncture in the treatment of vascular dementia

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Abstract
The author in May 2018 to June 2019, 60 patients with clinical observation by six wards in heilongjiang university second affiliated hospital of traditional Chinese medicine acupuncture, the treatment group using zhi san acupuncture "cross electric needle" and treatment of vascular dementia, the control group choose clinical traditional acupuncture methods combining zhi san acupuncture, research on improving the simple mental state examination scale score, daily life activities ability scale score, modified hasegawa dementia rating scale and clinical observation of curative effect, etc. It is pointed out that cross electric acupuncture combined with zhi san acupuncture can significantly improve the mental state, life ability and cognitive function of vascular dementia.

Key words: Cross wire needle; Zhi san acupuncture; Traditional acupuncture; Vascular dementia; Traditional Chinese medicine; Clinical observation

Vascular dementia is the disease of cognitive dysfunction caused by cerebrovascular disease that causes brain tissue to suffer from hemorrhagic, ischemic and oxygen deficiency. Vascular dementia is one of the common complications after stroke. With the increase of the aging trend in China, the incidence rate gradually increases with the increase of age. About 25% ~ 41% of patients over the age of 60 who suffer from stroke gradually develop vascular dementia within three months. Vascular dementia over 55 years old accounts for 30.6% of dementia in China, which is only the second clinical dementia disease in senile dementia. Vascular dementia patients not only their quality of life decline, the disappearance of social survival ability, but also give family members economic and psychological pressure.

Currently, western medicine is generally used in clinical treatment, such as olracitam and nimodil, but the efficacy is not ideal. In the treatment group, "cross electric needle" combined with
"zhi san acupuncture" was used to treat vascular dementia. The operation was simple, the treatment pain was reduced, and relatively satisfactory results were obtained, which was conducive to clinical promotion.

**Objective**

To study the effect of cross-acupuncture combined with zhi san acupuncture on mental state and life ability of vascular dementia.

**Materials and methods**

60 patients with vascular dementia who met the inclusion criteria were selected and divided into the treatment group and the control group according to the random number table. The control group was treated with traditional clinical acupuncture combined with zhi san acupuncture, while the treatment group was treated with cross electro-acupuncture combined with zhi san acupuncture, for 2 consecutive courses of treatment, one course of treatment lasting 14 days. After 2 courses of treatment, clinical efficiency, simple mental state examination scale (MMSE) score, daily living activity scale (ADL) score, modified hasegawa dementia scale (hds-r) score and other score changes were observed in the two groups.

**Results and discussion**

The treatment results showed that the total effective rate of the treatment group was 86.7%, 63.3% higher than that of the control group. MMSE score, ADL score and hds-r score of the two groups were significantly improved after treatment (P<0.05), but the scores of the treatment group were significantly better than the control group.

Therefore, in terms of improving MMSE score, lowering ADL score, improving hds-r score and improving clinical efficacy, the effect of this method is more significant than that of conventional traditional treatment combined with zhi san acupuncture.

Cross electric acupuncture combined with zhi san acupuncture can significantly improve the mental state, life ability and cognitive function of vascular dementia.

**References:**


Correlation between AMH level and sex hormone in patients with different syndromes of polycystic ovary syndrome

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Abstract
Polycystic ovary syndrome (PCOS) is a common and complex reproductive endocrine disease. Anti-Mullerian hormone (AMH) is an accurate indicator of ovarian function. Current research shows that there is a close relationship between the two. In this study, PCOS patients who met the diagnostic criteria were classified into phlegm dampness and non-phlegm dampness PCOS according to TCM syndrome criteria. Then analyzing the correlation of AMH and sex hormone indicators in two groups of patients respectively. In order to find the underlying laws of its distribution and provide reference value for clinical diagnosis and treatment.

Key words: AMH, sex hormone, polycystic ovary syndrome

Objective
By comparing the correlation of sex hormone and anti-Mullerian hormone (AMH) of polycystic ovary syndrome (PCOS) of phlegm dampness and non-phlegm dampness, we explored the correlation between typical clinical characteristics and indicators to provide the basis for individualized treatment of the disease.

Materials and methods
From June 2018 to April 2019, the data about AMH and sex hormone of gynecological outpatient patients with PCOS from Clinical Research Information Integration System of First Affiliated Hospital, Heilongjiang University of Chinese Medicine were analyzed retrospectively. All the patients were divided into two groups according to the diagnostic criteria of PCOS with syndrome of phlegm-dampness. Among 235 cases of PCOS, 149 cases were PCOS with syndrome of
phlegm dampness, and 86 cases were nonphlegm dampness. The data was entered into Excel, and statistical analysis was performed using SPSS 21.0 statistical software. Analysis of the degree of correlation between the two variables was performed using Pearson correlation analysis, and the difference was statistically significant at P < 0.05.

**Results**

The AMH of PCOS of phlegm dampness is positively correlated with LH, LH/FSH, T, AND (P < 0.05). The AMH of PCOS of non phlegm dampness is positively correlated with LH, LH/FSH, T, AND, SHBG but negatively correlated with FSH (P < 0.05).

<table>
<thead>
<tr>
<th>Observation index</th>
<th>The AMH level with phlegm dampness pcos patient</th>
<th>The AMH level with non phlegm dampness pcos patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>r</td>
<td>P</td>
</tr>
<tr>
<td>FSH (mIU/ml)</td>
<td>−0.086</td>
<td>0.474</td>
</tr>
<tr>
<td>LH (mIU/ml)</td>
<td>0.276</td>
<td>0.021</td>
</tr>
<tr>
<td>LH/FSH</td>
<td>0.299</td>
<td>0.011</td>
</tr>
<tr>
<td>PRL (mg/ml)</td>
<td>0.056</td>
<td>0.636</td>
</tr>
<tr>
<td>E2 (pg/ml)</td>
<td>0.170</td>
<td>0.154</td>
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<tr>
<td>P (ng/ml)</td>
<td>−0.092</td>
<td>0.451</td>
</tr>
<tr>
<td>T (ng/dl)</td>
<td>0.289</td>
<td>0.021</td>
</tr>
<tr>
<td>DHEAS (µg/dl)</td>
<td>0.122</td>
<td>0.374</td>
</tr>
<tr>
<td>AND (ng/dl)</td>
<td>0.314</td>
<td>0.022</td>
</tr>
<tr>
<td>SHBG (nmol/l)</td>
<td>−0.006</td>
<td>0.907</td>
</tr>
</tbody>
</table>

**Correlation between AMH levels and sex hormones in patients with PCOS**

Note: ΔP < 0.05, with correlation

**Discussion**

There is a correlation between AMH and LH, LH/FSH, T, AND in both types of PCOS patients. This is more consistent with most research reports. Estrogen elevation is a key indicator for the diagnosis of PCOS, and studies have found that practical use of testosterone intervention can reduce the expression of AMH, and the correlation between AMH levels and androgen. The increase of LH value is another characteristic index of PCOS clinical study. Some studies have found significant correlation between LH and AMH in various phenotypes of PCOS patients, and this correlation does not exist in non-PCOS. It may be through stimulation to control the action of gonadotropin-releasing hormone neurons, thereby enhancing the pulsed secretion of LH.

In summary, there is some similar correlation and correlation between AMH level and clinical indicators of different syndrome PCOS patients. At present, there are still many dissidents about the relationship between AMH and PCOS. It is hoped that this study can provide clinical diagnosis, treatment ideas and guiding significance for AMH and its sex hormone correlation in patients with phlegm dampness and non phlegm dampness PCOS.

**References:**

3. Tian X, Ruan X, Mueck A O, et al. Anti-Müllerian hormone levels in women with polycystic
Clinical Observation on Effect of Huanglian Jiedu Decoction on Lipid Metabolism in Patients with Coronary Heart Disease Complicated with Hyperlipidemia

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2. First Affiliated Hospital of Heilongjiang University of Chinese Medicine, Harbin, Heilongjiang Province, 150040, China

Abstract

Objective: To explore the clinical efficacy of traditional Chinese medicine in the treatment of coronary heart disease complicated with hyperlipidemia. Methods: Sixty patients with coronary heart disease and hyperlipidemia admitted to our hospital from January 2018 to March 2019 were randomly divided into control group and observation group, 30 in each group. Both groups received routine treatment. The control group received oral atorvastatin tablets on the basis of conventional treatment, and the observation group added Huanglian Jiedu Decoction on the basis of the control group. After 8 weeks, the clinical effects of the two groups were compared and statistical analysis was performed. RESULTS: The total effective rate of the observation group (90.37%) and the control group (74.19%) were statistically significant (P<0.05). Conclusion: It is more advantageous to adopt Chinese medicine in the treatment of coronary heart disease and hyperlipidemia in clinical practice. It has clinical promotion value.

Key Words: Huanglian jiedu decoction, coronary heart disease with hyperlipidemia, fat metabolism

Cardiovascular disease (CVD) is the leading cause of global morbidity and mortality. Coronary heart disease is a common disease in clinical cardiovascular disease. In 2008, about 13% of the world's total deaths were estimated to be due to coronary heart disease (CHD)[1]. At the same time, hyperlipidemia can cause functional changes in the aorta, and low plasma levels of high-density lipoprotein (HDL) cholesterol are associated with an increased risk of coronary heart disease[2]. In recent years, with the continuous improvement of people's living standards, the number of patients suffering from coronary heart disease complicated with hyperlipidemia has been increasing. How to take effective and effective treatment to control the development of the disease has become a key clinical research content. This article is aimed at 60 patients with coronary heart disease complicated with hyperlipidemia admitted to our hospital from January 2018 to March 2019. Exploring the clinical efficacy of traditional Chinese medicine therapy in the treatment of coronary heart disease complicated with hyperlipidemia. The results of the study are reported below.

Objective

To observe the clinical efficacy and lipid metabolism of traditional Qingrejiedu Recipe Huanglian Jiedu Decoction in patients with coronary heart disease complicated with hyperlipidemia.
Materials and Methods

Sixty patients with coronary heart disease and hyperlipidemia were randomly divided into the control group and the observation group, 30 patients in each group. Both groups received routine treatment. The control group received oral atorvastatin tablets on the basis of conventional treatment (20 mg once daily, administered after dinner). The observation group was added with Huanglian Jiedu Decoction on the basis of the control group. The course of treatment is 8 weeks. The triglyceride (TG), total cholesterol (TC), low density lipoprotein (LDL-C), high density lipoprotein (HDL-C) and adverse reactions were observed before and after treatment in the two groups.

Results and Discussion

The clinical efficacy (90.37%) was higher in the observation group than in the control group (74.19%), the difference was statistically significant (P<0.05). There were no significant differences in TG (triglyceride), TC (total cholesterol), LDL-C (low-density lipoprotein) and HDL-C (high-density lipoprotein) between the two groups before treatment (P>0.05). After treatment, the TG, TC, and LDL-C in the above indicators were significantly lower in the observation group (P<0.05), and the effect of HDL-C was not statistically significant (P>0.05). The adverse reactions of the two groups before and after treatment, blood routine and urine routine indicators were normal, no liver and kidney function damage.

Clinical observations show that Huanglian Jiedu Decoction can not only significantly improve the clinical efficacy in the treatment of patients with coronary heart disease and hyperlipidemia, but also improve the blood lipid related indicators, play an important role in relieving the patient's condition, and has clinical promotion value.

References:

Effect of Electroacupuncture on Behavior and Key Factors of CaMK signaling Pathway in Depressed Rats

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Abstract

Synaptic plasticity is the core of learning and memory and plays an important role in hippocampal nerve regeneration in depressed rats. Promoting hippocampal nerve regeneration and synaptic remodeling through CaMK pathway is a potential new target for the treatment of depression. In this research, a rat model of depression was modeled by chronic unpredictable mild stress (CUMS). In the electroacupuncture group, modeled rats had Baihui (GV20) and Shenting (GV24) acupoints treated once a day for 20 minutes. In the drug group, modeled rats were gavaged with fluoxetine (0.18mg/kg). Western blot analysis was used for the protein expression levels of CaMKII, CaMKIV. The results showed that the behavioral intervention of electroacupuncture on rats with depression was significant. Electroacupuncture and fluoxetine can regulate the expression of key proteins in the hippocampal CaMK signaling pathway of CUMS rats. This suggests that depression can be relieved by acupuncture regulating the CaMK signaling pathway.

Key Words: electroacupuncture, depression, CaMK signaling pathway

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Key Words: electroacupuncture, depression, CaMK signaling pathway
Depression is a common mental illness with emotional or mood disorders characterized by high disease, high burden, high suicide, and recurrence. Major depressive disorder (MDD) is the leading cause of medical disability worldwide. Although the incidence of depression has remained stable with decades of extensive intervention, research and public awareness\(^1\), the risk of depression is twice as high as that of patients with multiple morbidity. Patients with chronic conditions are 45% more likely to have depression than those without chronic physical conditions \(^2\). Studies have estimated that only 50% of people with depression respond to currently available antidepressant treatments \(^3\). Therefore, the use of currently available antidepressants completely relieves symptoms and is difficult to achieve.

Acupuncture, especially electroacupuncture, is effective in the treatment of depression, which can effectively improve depressive symptoms and behaviors, and achieve antidepressant effects\(^4\). Some studies focus on the CaMK signaling pathway in the central nervous system. The CaMK signaling pathway has been shown to be involved in the pathogenesis of mental disorders, including depression. Electroacupuncture may treat depression by regulating the expression of key factors in the CaMK signaling pathway.

**Objective**

The expression of key proteins CaMKII and CaMKIV in CaMK signaling pathway was analyzed to determine whether depression was treated by acupuncture at Baihui (GV20) and Shenting (GV24) through CaMK signaling pathway.

**Materials and methods**

Ninety adult male Sprague-Dawley (SD) rats with a specific pathogen of 180~220g and an age of 6-7 weeks were selected. After 7 days of adaptive feeding, rats in the open box with the test level score and the vertical score of 30~120 were randomly divided into blank group, model group, electroacupuncture group and drug (fluoxetine). The statin group, 21 in each group, was prepared according to the Willner and Hennessy methods. Rats in each group received different stimuli and were tested for 7 days, 14 days, and 21 days, respectively. After the end of the corresponding experiments, the protein expression levels of CaMKII and CaMKIV were analyzed by Western blot.

**Results and discussion**

On the 7th, 14th and 21st days of modeling, the model group's behavioral indicators (Changes in BW, Sucrose Preference Test, Open Field Test) were lower than the blank group (P<0.01); compared with the model group, electricity The behavioral indexes of the acupuncture group and the drug group increased (P<0.01), and there was no significant difference between the two groups (P>0.05).

The cumulative optical density (IOD) of hippocampal CaMKII and CaMKIV in the model group was significantly down-regulated on day 14 and day 21 compared with the blank group (P < 0.01; P < 0.01). The cumulative optical density (IOD) of CaMKII in hippocampus of electroacupuncture group and drug group was significantly up-regulated (P <0.01, P <0.05; P <0.01, P <0.01); CaMKIV cumulative optical density (IOD) also increased (P > 0.05, P < 0.05; P < 0.01, P < 0.01). There was no significant difference between the electroacupuncture group and the drug group, indicating that the electrotherapy has a similar effect on the drug (fluoxetine).

Electroacupuncture has a convincing antidepressant effect by modulating key factors in the CaMK pathway.

**References:**

Treatment of 30 cases of true medullary paralysis and dysphagia after stroke by "through-sucking and swallowing acupuncture"

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Abstract
In this study, 30 patients with true medullary palsy and dysphagia after stroke were treated with a four-course "through-sucking acupuncture needle" method. Analysis results: By assessing the drinking water test scores before and after the patient and the related TV fluorescent swallowing test results, it can be clearly observed that the acupuncture method has a significant effect on the true medullary paralysis dysphagia.

Key words: stroke; true medullary paralysis; dysphagia; through-sucking and swallowing acupuncture; five acupoints in the anterior neck area

Objective
To observe the clinical efficacy of "through-sucking and swallowing acupuncture" in the treatment of true medullary paralysis and dysphagia after stroke.

Materials and methods
Thirty patients with true medullary paralysis and dysphagia after stroke were from acupuncture and moxibustion ward of the Second Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine from March 2018 to May 2019, including 18 males and 12 females; the youngest was 33 years old and the largest was 69, the average (53.53 ± 11.20) years; the shortest course of 5 days, the longest 9 days, the average (8.37 ± 2.77) days.

They were treated with the method of "through-sucking and swallowing acupuncture". The acupoints were taken from the "five acupoints in the anterior neck area". The needles were removed and the needles were removed. The treatment was performed once a day, 5 times for one. Treatment, a total of 4 courses of treatment. The scores of the drinking water test of the patient and the hyoid anterior displacement of the hyoid bone in the videofluoroscopic swallowin g study (VFSS) were recorded before and after treatment. Among them, the main measurement is the hyoid vertical displacement (HV), the hyoid anterior displacement (HA) and the maximum displacement of the hyoid bone (Hm) and assessed clinical efficacy.

Results and discussion
The collected data were analyzed and processed by SPSS19.0 software. The measurement data of drinking water test score and hyoid bone mobility were expressed by (x±s), and the paired t test was used. The difference was statistically significant at P<0.05.

The results showed that in 30 patients, 10 cases were cured, 14 cases were markedly effective, 5 cases were effective, and 1 case was ineffective. The total effective rate was 96.6%. After treatment, the patient's drinking water test rating and the anorexia movement time decreased significantly, compared with before treatment (P<0.05). After treatment, the patient's maximum forward displacement, maximum upward displacement and maximal displacement of the hyoid bone were observed. Significantly increased, compared with before treatment, there was a significant difference (P<0.05), indicating that the "through-throat swallowing needle method" can
significantly improve the weakness of the hyoid bone and promote the recovery of swallowing function.
As a result, the "through-sucking and swallowing acupuncture" is effective in the treatment of true medullary paralysis and dysphagia after stroke, which is worthy of clinical promotion.

References:

Research Progress of Acupoint Application Treatment for Hypertension

He Yue¹, Zhou Yabin²
(¹. Heilongjiang University of Traditional Chinese Medicine, Heilongjiang, 150040, China; ². The first affiliated Hospital of Heilongjiang University of traditional Chinese Medicine, Heilongjiang, 150040, China)

Abstract
Acupoint application of traditional Chinese medicine has achieved good curative effect in the treatment and stability of hypertension, and the characteristics of small side effects have attracted attention and attention. This paper probes into the understanding and clinical treatment of hypertension treated by acupoint application, and expounds the research progress of acupoint application in the treatment of hypertension, so as to provide some reference for the methods and concrete treatment schemes of clinical acupoint application in the treatment of hypertension.

Key words: Hypertension; TCM medication; Acupoint application; Review
Hypertension is a common chronic disease, and the side effects and drug-dependent effects of traditional western drug oral therapy also cause health problems. TCM external drugs stimulate the pharmacological effect of points and acupoints to treat hypertension, which can achieve the purpose of prevention and prevention. The application of points can reduce blood pressure and reduce adverse reactions. The method is simple, safe, good patient compliance, which is worthy of clinical promotion.

Objective
In this paper, the use of drugs, acupoints, time and so on are reviewed. Clinical study.

Methods
1. Clinical research
Yang Yonghua and others concluded before and after the experiment that acupoint application of Jiangya recipe could obviously improve vertigo, dry mouth and bitter constipation, impatience and irritability, insomnia, forgetfulness and waist acid knee weakness [¹]. Cui Yong et al. The clinical effect of acupoint application of traditional Chinese medicine in the treatment of hypertension is very obvious [²]. The improvement of clinical symptoms, the decrease of blood pressure and the clinical effect were obvious in Cui Shengyue group. Acupoint application of traditional Chinese medicine is effective in the treatment of hypertension, with less adverse reactions, safety and convenience, and is worth popularizing [³].

2. Application of drugs and selection of acupoints
Wu Xuesu pointed out that the external application of Evodia officinalis powder to Yongquan acupoint has the effect of nourishing yin and reducing fire. Wang Dewen used acupaste made of Hedyotis diffusa and other drugs to reduce blood pressure 95%. Sun Jingwen applied Cinnamomum cassia and Wu Zhuying to Shuangfoot Yongquan acupoint, and the antihypertensive effect was obviously better than that of western medicine. In the above research, most of the drugs are warming and tonifying kidney yang, clearing heat and relieving wind, liqi, dredging meridians and collaterals, camphor, menthol and so on, which can promote the infiltration of drugs into the skin and give full play to the curative effect. The acupoints were mainly calming the liver and latent yang, nourishing the yin of the liver and kidney.

3. Deployment time
Mei Ying believes that acupoint application drugs should be deployed daily and sealed at room temperature. Zheng Rong concluded through clinical trial that the storage time of acupoint application drugs affected the curative effect, and it was appropriate to use them up within 10 hours at room temperature.

4. Treatment time
Zhang Xuefang pointed out that acupoint application can relieve the increase of morning peak blood pressure in patients with hypertension. Huang Yanfang thought that acupoint application had a significant antihypertensive effect from Yotime to ugliness (17:00 to 3:00 the next day). Zheng Rong believes that acupoint application is more suitable for 6 hours.

Results and discussion
Acupoint application is made of warming and tonifying kidney yang, clearing heat and rest wind. Qi, dredging meridians and collaterals, aromatherapy powder and so on; the principle of acupoint selection is calming liver and latent yang and nourishing liver and kidney; the medicine is prepared on the same day, sealed at room temperature for less than 10 hours, applied to Yotime to ugliness (17:00 to the next day), and the retention and application time is 6 h. Acupoint application in the treatment of hypertension is to use acupoint application to stimulate specific acupoints to regulate blood pressure, effectively avoid the toxic and side effects of taking medicine, and improve patient compliance. However, there are still many shortcomings in the study of acupoint application of traditional Chinese medicine in the treatment of hypertension. The research direction should continue to expand the application of acupoints. The scale of clinical research samples for the treatment of hypertension, accelerate the pace of standardization of traditional Chinese medicine diagnosis of vertigo, and continue to explore more effective and more in line with the health requirements of modern people.

Reference:
Clinical Observation on 80 cases of Chronic Eczema treated by Ling Zhu
Medicinal broth combined with Ozone Hydrotherapy

Wang Yu¹, Yang Su-qing² (corresponding author)

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Abstract: Objective: observe the clinical efficacy of Ling Zhu Medicinal broth combined with Ozone Hydrotherapy in the treatment of chronic eczema. Methods: 80 patients who met the clinical observation were randomly assigned to the control group. 40 patients in the control group were treated with Ling Zhu Medicinal broth, 150ml/ time, 2 times /d. On the basis of the control group, 40 patients in the treatment group were treated with Ozone Hydrotherapy once every other day for 20 minutes. Both groups were combined with Vaseline, a topical moisturizing lotion. Records two groups before and 2, 4 weeks of treatment in patients with itchy EASI scores, visual analogue scale, Chinese medicine symptom score data, compared two groups of therapeutic effect. Results: The forth week EASI scores, skin pruritus score treatment group were better than the control group (P < 0.05);The significant efficiency of the treatment group was up to 92.5%, and that of the control group was 65%. The clinical efficacy of the treatment group was better than that of the control group (P < 0.05);The TCM symptom score of skin dryness in the treatment group was better than that in the control group (P < 0.05);Symptoms of constipation and insomnia in the two groups were improved compared with those before treatment (P < 0.05);No relief in dry mouth symptoms (P > 0.05).Conclusion: Ling Zhu Medicinal broth combined with Ozone Hydrotherapy has clinical application value in the treatment of chronic eczema.

Reference
Clinical effect analysis of Yiqi Jianpi Huatan Recipe on stable period of Chronic Obstructive Pulmonary Disease (lung spleen qi deficiency syndrome)

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Abstract

Objective: To observe the clinical effect of Yiqi Jianpi Huatan Recipe in the treatment of patients with chronic obstructive pulmonary disease (Lung spleen qi deficiency syndrome). Methods: Seventy patients from the Department of Respiratory Medicine of the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine from March 2018 to March 2019 were selected, and all patients met the diagnostic criteria of Western medicine stable period and TCM syndrome differentiation was lung spleen qi deficiency syndrome, 70 patients were divided into treatment group and control group by 35 cases. Results: Yiqi Jianpi Huatan Recipe in patients with stable COPD (pulmonary spleen qi deficiency syndrome) can significantly improve the clinical symptoms of patients. The total effective rate of the treatment group is 93.94%, and the total effective rate of the control group is 75.00%. Conclusion: Yiqi Jianpi Huatan Recipe can effectively improve the clinical symptoms of patients with stable period (pulmonary spleen qi deficiency syndrome). It has clinical promotion value.

Key words: COPD stabilization period, Yiqi Jianpi Huatan Recipe, Lung spleen qi deficiency syndrome, IL-18, Clinical Observation

Chronic obstructive pulmonary disease (COPD) is a disease characterized by persistent respiratory symptoms and airflow limitation, usually caused by abnormal airways and/or alveoli caused by exposure to toxic particles or gases. [1-2] It is related to airflow limitation and is the result of a combination of various clinical factors and molecular genetic factors. The lesion mainly affects the lungs, but it can also cause systemic adverse reactions. China's survey of 20,245 adults in 7 regions shows that the prevalence of COPD in people over 40 years old is as high as 8.2%. This figure is undoubtedly amazing. In terms of mortality, COPD ranks third in China. In the countryside, it is the first cause of death. At the same time, COPD imposes a heavy economic burden on patients, their families and society. According to the World Bank and the World Health Organization, by 2020, COPD will rank fifth in the world's disease economic burden. [3] Compared with Western medicine treatment, the advantages of traditional Chinese medicine in the treatment of COPD stable period are: regulating the body's immune function, improving ventilator fatigue and malnutrition, anti-oxidation, improving lung function, and improving diaphragmatic contractility. Not only that, the advantage of traditional Chinese medicine is that safety, compliance, drug resistance and adverse reactions are superior to Western medicine. The combination of traditional Chinese medicine and western medicine significantly improves the immunity of patients and reduces the number of acute attacks. The economic and psychological burden of the patient. The instructor used many years of experience to add Codonopsis pilosula, Rhizoma and Atractylodes on the basis of Liujunzi Decoction, and the clinical effect was remarkable. The results of the study are reported below.

Objective

To observe the effect of Yiqi Jianpi Huatan Recipe on patients with chronic obstructive pulmonary disease (positive pulmonary spleen qi deficiency), its clinical symptoms, lung function and serum IL-18, and evaluate its clinical efficacy.

Methods

Seventy patients with stable I to II grades were enrolled. At the same time, TCM dialectical syndrome was found as lung spleen qi deficiency syndrome. They were divided into treatment
group and control group by 35 cases, 33 cases in the treatment group and 32 cases in the control group. The treatment group was treated with Yiqi Jianpi Huatan Recipe combined with western medicine. The control group was treated with western medicine alone. The clinical symptoms and lung function were observed before and after treatment. The serum levels of IL-18 were measured by ELISA.

**Results and discussion**

Yiqi Jianpi Huatan Recipe in patients with stable COPD (pulmonary spleen qi deficiency syndrome) can significantly improve the clinical symptoms of patients. The total effective rate of the treatment group is 93.94%, and the total effective rate of the control group is 75.00%. The treatment group was superior to the control group (p<0.05). At the same time, the scores of each main symptom and secondary disease after treatment were better than before treatment, and there was statistical difference (p<0.05), which could effectively improve the symptoms of cough, cough, wheezing, shortness of breath and constipation, and the treatment group Better than the control group (p<0.05). There was no significant difference in lung function FEV1%Pred and FEV1%Pred between the two groups (p>0.05). There was no significant difference between the two groups (p>0.05). The levels of IL-18 in the serum of the two groups were significantly lower after treatment and the content of the treatment group was significantly lower than that of the control group. There was significant difference between the two groups (p<0.05). There were no abnormalities in the safety indicators after treatment in the two groups.

Clinical observation of Yiqi Jianpi Huatan Recipe not only improves the effective improvement of patients' lung function, but also alleviates the clinical symptoms of patients, and enables patients to reach basic living standards and has clinical promotion value.

**References:**

nerve root. Motor disorder accounts for about 50% of the incidence of cervical spondylosis, and has the trend of rejuvenation\[1\]. At present, most of the treatment methods of this disease are non-surgical treatment, but because the treatment method is single or the course of treatment is too long, some patients still have poor therapeutic effect\[2-3\], so they tend to combine with each other and learn from each other. The rotation used in this report Based on the principle of modern medical anatomy and mechanics and the theory of qi, blood and body fluid of traditional Chinese medicine, the treatment cycle was shortened, the compliance of patients was improved, and the clinical curative effect was effectively improved by combining the advantages of lifting ridges with needle knife therapy and based on the principles of modern medical anatomy and mechanics and the theory of qi and blood body fluid of traditional Chinese medicine.

Objective
Retrospective analysis of the clinical effect of rotating lifting and chiropractic combined with needle knife in the treatment of cervical spondylosis of nerve root type.

Materials and methods
In 64 patients with cervical spondylotic radiculopathy treated with the combined needle-knife, the digital grading method (NRS) and the cervical dysfunction index (NDI) were used as the observation index.

The patient takes the prone position and bends his head as far as possible, marked tenderness point, and the skin of the operation area was routinely disinfected and anaesthesia. Local infiltration anesthesia. The surgeon quickly entered the needle from the pain point, and cut 3 to 4 knives forward on the bone. A little blood is squeezed out after the knife is out. And then lift the ridges.

Results and discussion
Rotating lifting and chiropractic therapy can effectively relax neck muscles and relieve spasm of blood vessels and muscles. At the time of the small joint of the neck of the disorder, it can release the adhesion and slide the joint so as to restore the normal anatomical position of the joint[4].

The needle knife can relieve the adhesion and contracture of the lesion tissue, dredge the blockage, cause the local trauma artificially, and form the fresh wound. Needle knife therapy can effectively relieve pain by loosening, cutting and peeling the tissue of high tension lesions.

The invention can effectively improve the circulation of blood circulation, accelerate the absorption of the inflammatory factors, relieve the pain of the neck and promote the recovery of the function of the neck so as to achieve the purpose of treatment.

Reference

Clinical Observations on the Efficacy on Knee Osteoarthritis Treated by Fu's Subcutaneous Needling

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Abstract

In the treatment of knee osteoarthritis, Fu's subcutaneous needling has quick effect, minimal trauma, strong repeatability, safety and reliability, and remarkable curative effect. This therapy can effectively relieve pain, stiffness and movement disorder of the affected area and improve knee function of patients, thus it is worth to be widely spread in clinical practice.

Key words: Fu's subcutaneous needling; Reperfusion approach; Knee osteoarthritis

Clinically, knee osteoarthritis is an irreversible degenerative joint function in the elderly, which is mainly caused by knee joint activity, pain, and morning stiffness.[1] At present, for patients with knee osteoarthritis, the main goal of treatment is to relieve local pain symptoms, improve knee function, and gradually improve the patient's daily mobility.[2-3] In the past six months, we used Fu's subcutaneous needling therapy to treat 40 patients with knee osteoarthritis, the results showed that the Fu's subcutaneous needling treatment of knee osteoarthritis can effectively alleviate the clinical symptoms of patients and improve the function of the knee joint, and that the effect is better than gneral acupuncture.

Objective

To observe and compare the clinical efficacy of Fu's subcutaneous needling in the treatment of knee osteoarthritis.

Materials and methods

40 patients who were diagnosed such disease were selected. During the one-week treatment cycle, these patients were given Fu's subcutaneous needling treatment once every other day for 3 times. The specific operation method is as follows: Found the suspicious muscles by exploring the pain point using pushing test, where the Fu's subcutaneous need was inserted at a distance of 4 cm. The needle tip kept 15°~30° into the skin, while the depth was about 5mm, avoid inserting into the muscle layer along the skin. Then slightly lifted the needle body, slowly pushed forward the need and pushed 25-35 mm in parallel along the skin. After the needle insertion, the needle handling operation was operated, that's to say, the uniform sweep was performed for about 1 minute. Thereafter, depending on the patient's muscle distribution, we help these patient to repeats the corresponding reperfusion activities for 3 consecutive times. Subsequently, the needle core was withdrawn, and the soft trocar handle was fixed with the indwelling needle, and the patient was given a precaution, the soft cannula was taken out after 6 hours. Compared the scores of WOMAC and Lysholm, as well as evaluated the clinical efficacy before and after 1 week of such treatment.

Results and discussion

1 week after the treatment, the WOMAC scores were significantly lower than those before treatment (P <0.05); the Lysholm scores were significantly higher than those before treatment (P <0.05). The total effective rate of the observation group was 93.3%.

The principle of near-treatment is based on the general rule that each acupoint has a local and adjacent tissue and part of the disease, and is used to treat obvious and more limited symptoms on the body surface. In the application of Fu's subcutaneous needling for knee osteoarthritis, the choice of needle point is not selected on the site of the pain, but as a treatment entry point around the local muscle, also in line with the principle of near treatment. Prof. Fu Zhonghua, the inventor of such therapy, believes that the muscle is the muscle in which the muscle is in a pathological state or the muscle where the pain point is located[4], and the loose connective tissue. Loose connective tissue has different degrees of guidance and promotion for the self-repair of human tissues, and assumes the main performer role of the human self-organizing system.

Both sweeping and reperfusion are the distinctive features of Fu's subcutaneous needling, and also the main link in the operation. The mechanical structure inside the soft tissue can be adjusted by the mechanical force generated by the sweeping. The reperfusion can significantly increase the blood flow velocity and blood flow in the affected area. The range is beneficial to the repair of the muscle in the ischemic state, so the Fu's subcutaneous needling has a good analgesic effect[5].

References:
Effects of Acupuncture-rehabilitation Therapy on Blood-brain Barrier Permeability and Expression of Caveolin-1 and Claudin-5 Protein in Ischemic Brain Tissue of Rats with Focal Cerebral Ischemia

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Abstract
Relying on the provincial key laboratory of brain function and neurological rehabilitation under the leadership of Professor Tang Qiang, the rats with focal cerebral ischemia were intervened by Acupuncture-rehabilitation Therapy, and set the 3d, 7d, 14d time points to observe the degree of nerve damage in cerebral ischemia rats, the permeability of blood-brain barrier (BBB) was observed with Evans blue (EB), the expression of Caveolin-1 and Claudin-5 protein in ischemic brain tissue was detected by Western blot (WB). The results showed that Acupuncture-rehabilitation Therapy can alleviate the degree of neurological damage in rats with cerebral ischemia, improve the permeability of BBB, and play a certain role in brain protection. The mechanism may be related to the promotion of Caveolin-1 and Claudin-5 protein expression by Acupuncture-rehabilitation Therapy.

Key words: cerebral ischemia, neurological function, acupuncture-rehabilitation therapy, blood-brain barrier, Caveolin-1, Claudin-5, rats

Ischemic stroke accounts for about 60%-80% of strokes. It is a general term for cerebral ischemia and hypoxia caused by stenosis or occlusion of the arteries, which leads to localized brain tissue necrosis. The mortality rate and disability rate are high, and there is a trend of youthfulness. At present, there is still no effective treatment and rehabilitation means.

BBB is a dynamic interface between the blood and brain tissue that selectively blocks the substance. The integrity and permeability of BBB play an important role in the stability of the brain environment. The tight junction exists between vascular endothelial cells and is an important part of BBB. Claudin-5 is one of the members and is the most important protein in maintaining the normal function of BBB. In addition, when ischemic stroke occurs, caveolae can control and balance by regulating BBB permeability, reducing neuro-inflammation, preventing apoptosis, and inhibiting angiogenesis. Caveolin-1 is the major constituent protein of caveolae, and experiments have shown that caveolin-1 knockout mice have a larger cerebral infarct size than wild-type mice, and the apoptosis rate is also higher.
Objective

To observe the effect of Acupuncture-rehabilitation Therapy on BBB permeability and expression of Caveolin-1 and Claudin-5 protein in ischemic brain tissue of rats with focal cerebral ischemia, and to explore the possible mechanism of brain protection.

Materials and methods

A total of 180 SPF male Sprague-Dawley rats were randomly divided into sham operation group, model group, acupuncture group, rehabilitation group and acupuncture-rehabilitation group by random number table method. Each group was subdivided into three subgroups (n=12) of 3 d, 7 d, and 14 d. The cerebral ischemia model was established in the last 4 groups by modified Longa suture method. The model was screened by Longa 5 grade 4 points 24 hours after operation, and the 1--3 rats were included in the experiment. All intervention groups were treated 24 hours after surgery. The sham operation group and the model group were not treated. The acupuncture group was treated with head acupuncture, the rehabilitation group was used for treadmill rehabilitation training, and the acupuncture-rehabilitation group was combined with acupuncture and treadmill treatment. The rats were treated with modified Neurological Severity Score (mNSS) at various time points. EB observed BBB permeability of rat brain, and WB detected the expression of Caveolin-1 and Claudin-5 protein in ischemic brain tissue.

Results and discussion

At each time point after operation, compared with the model group, the mNSS scores of each treatment group were decreased (P<0.05), the content of Evans blue was decreased (P<0.05), and the expressions of Caveolin-1 and Claudin-5 were up-regulated (P<0.05); On the 7th and 14th day after operation, compared with the acupuncture group and the rehabilitation group, the mNSS score of the acupuncture-rehabilitation group was further decreased (P<0.05), and the Evans blue content was further decreased (P<0.05), Caveolin-1, Claudin-5 protein expression was further up-regulated (P<0.05).

At the same time, at each time point after surgery, compared with the model group, the mNSS scores of all treatment groups were decreased, the content of Evans blue was decreased, and the expressions of Caveolin-1 and Claudin-5 were up-regulated, it is suggested that each therapy can treat the cerebral ischemia rats, reduce the degree of neurological damage, improve the permeability of BBB, and play a certain role in brain protection. The longer the intervention time, the more significant the curative effect.

Among them, the acupuncture-rehabilitation group is superior to the acupuncture group and the rehabilitation group in the treatment effect. The mechanism of action may be related to the improvement of BBB permeability and the expression of Caveolin-1 and Claudin-5 proteins after cerebral ischemia.

References:
Clinical observation on the treatment of phlegm and blood stasis type Knee osteoarthri with small needle knife combined with ShuangHeTang.

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Abstract:  
Objective: To observe the clinical efficacy of small needle knife combined with Shuang-He-Tang in the treatment of phlegm and blood stasis type Knee osteoarthri (KOA). Methods: 60 patients with KOA were randomly divided into needle knife group, Shuang-He-Tang group and treatment group, 20 cases in each group. The Shuang-He-Tang group was treated with Shuang-He-Tang, the needle knife group was treated with small needle knife, and the treatment group was treated with Shuang-He-Tang and small needle knife. All groups were treated for 2 months. Results: The VAS score and Lysholm score of the three groups before treatment were similar, P > 0.05, the difference was not statistically significant. After treatment, the VAS score and Lysholm score of each group improved. Patients in the treatment group scored better than Shuang-He-Tang group and needle knife group, P < 0.05, and the difference was statistically significant. Conclusion: Small needle knife combined with traditional Chinese medicine Shuang-He-Tang is a therapeutic method for the treatment of patients with phlegm and blood stasis type KOA.  
Key words: small needle knife; Shuang-He-Tang; phlegm and blood stasis type Knee osteoarthri; clinical observation

Professor Zhou Yabin's Experience in Treating Coronary Heart Disease with Qi and Blood Theory

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Abstract: Professor Zhou Yabin believes that the etiology and pathogenesis of coronary heart disease are mainly related to exogenous six pornography, dietary disorders, emotional disorders, internal injury and fatigue. The key pathogenesis of coronary heart disease is deficiency of heart-qi, dysfunction of Qi and blood, blockage of blood stasis, and the location of the disease is in the heart, which is closely related to the kidney. At the same time, combined with the clinical characteristics of coronary heart disease, which is mainly characterized by chronic and recurrent attacks, Professor Zhou Yabin believed that the prolongation of the disease would involve heart and kidney, injure Qi and blood, so in the treatment, he paid special attention to the method of invigorating qi, activating blood and nourishing heart.  
Key words: Professor Zhou Yabin; Cardiovascular Theory; Coronary Heart Disease; Famous Medical Experience

Emphasizing the Theory of Qi and Blood

Professor Zhou believed that both external and internal injuries would eventually damage Qi and blood, so he emphasized that the root of treatment lies in the differentiation and treatment of Qi and blood. The purpose of clinical treatment of diseases is to regulate qi and blood and restore normal physiological functions. As the "Su Wen Zhi Yao Da Lun" said: "Shu Qi and blood, and other mediation, and to achieve peace, which is also called. Therefore, the attributes of the disease should
be identified according to the four diagnostic criteria and eight principles, and the syndrome differentiation of Qi and blood should be combined\[^{[1-2]}\].

**Three Therapies for Qi Disease and Blood Disease**

Professor Zhou found in clinic that Qi deficiency, Qi stagnation, Qi inversion and Qi depression were common manifestations of the pathological mechanism of Qi. On the one hand, blood deficiency is caused by insufficient production or excessive loss of blood, which leads to the weakening of blood nourishment function; on the other hand, blood stasis and hemorrhage are pathological changes caused by blood dysfunction. Qi and blood are interdependent, interdependent and mutually useful. When Qi disease or blood disease develops to a certain extent, it often affects the physiological function of the other side and causes pathological changes, thus manifesting as the syndromes of Qi and blood diseases. After summarizing Professor Zhou's proposals, we should use the three methods of invigorating Qi, regulating Qi and dredging Qi for Qi disease, and the three methods of invigorating blood, circulating blood and stopping bleeding for hemorrhage disease.

The method of Invigorating Qi should be used in Qi deficiency syndrome. Qi is the master of one body and has the function of promoting Qi and blood. The so-called Qi is blood-handsome, while Qi is blood-handsome. Conversely, if Qi deficiency is unable to promote blood circulation, it can form chest pain, heartache, its clinical manifestations are shortness of breath, fatigue, anxiety, spontaneous sweating, chest suffocation or pain (mostly dull pain, activity is aggravated), weak tongue, weak pulse or depression and other symptoms. Professor Zhou self-made Yiqi Yangxin Decoction, which uses ginseng and Astragalus to invigorate Qi, is used to treat angina pectoris of coronary heart disease with Qi deficiency as the main factor, and has good effect.

Blood tonifying is mainly used for blood deficiency syndrome. One of the causes of blood deficiency is that blood wastage is too much, but the source of blood is insufficient. Professor Zhou's clinical treatment of diseases caused by blood deficiency usually takes Siwu decoction as the main prescription for the treatment of additions and subtractions. Professor Zhou also emphasized that blood deficiency syndrome can not be simply enriched, but still needs to be enriched, because Qizhuang can be absorbed and energetic, and blood can be derived from sources.

Blood circulation is mainly used for the treatment of blood stasis syndrome. The clinical treatment of blood stasis caused by various reasons is based on the theory of cause and treatment and combined with the method of activating blood circulation and removing blood stasis.

Aiming at the same disease of Qi and blood, it mainly manifests in two aspects: deficiency of both qi and blood, deficiency of both qi and blood and blood stasis: (1) deficiency of both qi and blood: the body's Qi and blood flowing through the whole body is the material basis for the physiological activities of all organs and tissues such as zang-fu meridians and collaterals. The so-called "Qi governs warmth and blood governs immersion" in The Book of Difficulties is a highly generalized function of Qi and blood. If congenital weakness, insufficiency of Qi and blood, or prolonged illness, serious illness consuming Qi and blood, or deficiency never returns after blood loss, or weakness of spleen and stomach of middle Jiao can not biochemical Qi and blood, all of these can lead to deficiency of both qi and blood, which should be supplemented in treatment. Professor Zhou often uses Guipi Decoction, Ginseng Yangrong Decoction, Bazhen Decoction and Shengyu Decoction to treat deficiency of Qi and blood for different diseases. (2) Qi deficiency and blood stasis: Professor Zhou attaches great importance to the pathological mechanism of Qi deficiency and blood stasis. He believes that most of angina pectoris of coronary heart disease is the syndrome of Heart-Qi Deficiency and heart-blood obstruction. It is believed that Qi and blood run all over the body, from internal organs to internal organs, and reach the skin, flesh, bones and bones, which play a role of warm moistening and nutritional irrigation for all tissues and organs. People's Qi and blood are like a source, which is fluent in prosperity and stagnant in fewer, so Qi is not empty and stagnant. Nothingness leads to stagnation. Qi deficiency weakens the body's function of ascending and descending movement, slows blood flow, insufficient veins and bloodstream, thus forming blood stasis. This kind of blood stasis pure use of blood-activating and Blood-Stasis-Removing drugs, it must not take effect, must be mainly to invigorate Qi, supplemented by
promoting blood circulation and dredging collaterals, in order to achieve the purpose of Qi-booming and blood-circulation.

**Pay attention to blood stasis, but remove blood stasis to a certain extent**

Professor Zhou has unique and profound views on blood stasis. Professor Zhou found that there were many reports about promoting blood circulation and removing blood stasis in domestic journals, but most of them explored its pathogenesis from the perspective of modern medicine, which was naturally very important, but less explored the pathogenesis and treatment of blood stasis. Professor Zhou attaches great importance to the theory of blood stasis, pointing out that the factors of blood stasis are Qi deficiency, Qi stagnation, cold coagulation, heat burning, phlegm-dampness, water storage, wind and other differences. Clinically, we should seek reasons according to evidence, examine causes and treat them so as to achieve the purpose of activating blood circulation and removing blood stasis. If we do not examine the cause, blindly use vigorous drugs to activate blood and break blood, not only ineffective, but also promote the deterioration of the disease, playing the opposite effect. Professor Zhongzhou transformed Shengmai Yin and Xuefu Zhuyu Decoction into Qimai Huayu Decoction to treat angina pectoris of coronary heart disease and arrhythmia caused by various reasons, which belongs to patients with coronary heart disease of deficiency of both Qi and Yin and internal obstruction of blood stasis. In addition, Huangqi Guizhi Wuwu Decoction and Blood-activating drugs are often used to treat angina pectoris of coronary heart disease of Qi deficiency and blood stasis type.

**Reference:**


**Acupuncture Treatment of Cerebral Infarction Complicated with OSAHS Cases**

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Obstructive sleep apnea hypopnea syndrome (OSAHS) is an undetermined sleep-disordered respiratory disease characterized by partial or total obstruction of the upper middle airway of the sleep, mainly by the soft tissue of the upper airway (the genioglossus, etc.) caused by a drop in muscle tone. Clinical manifestations include nighttime sleep snoring with apnea and daytime sleepiness. Repeated episodes of nocturnal hypoxia and hypercapnia caused by apnea can lead to complications such as hypertension, coronary heart disease, diabetes and cerebrovascular disease, and traffic accidents, and even sudden death at night¹. OSAHS is one of the risk factors for cerebral infarction, which can lead to atherosclerosis, high blood pressure and early morning blood concentration, which increases the risk of these factors². Studies have also confirmed that the incidence of sleep-disordered breathing increases soon after cerebral infarction (stroke). This article introduces the treatment of cerebral infarction with OSAHS by acupuncture.

**1 Case data**
Patient Sun, male, 61 years old, was admitted to the hospital because of "unfavorable physical activity on the right side for 1 month." The patient suffered from drinking water and cough after waking up one month ago, and the right side of the limbs was unfavorable. After admission, the patient was found to have sleep apnea, frequent night awakening, suffocation, morning dizziness, daytime fatigue, sleepiness, and frequent treatment. When you fall asleep. He has a history of hypertension for more than ten years. Physical examination: Conscious, the language is slow and clumsy, the voice is hoarse, drinking water cough, the frontal pattern is symmetrical, the bilateral pupils are about 3mm, the light reflection exists, the eye movement is flexible, the right nasolabial groove is shallow, and the right tongue is right. The pharyngeal reflex is weakened, the right upper limb muscle strength is grade 1, the muscle tension is lowered, and the tendon reflex is active. The right lower extremity muscle strength is 3, the muscle tension is acceptable, and the tendon reflex is active. Right Hoffman sign (+), Babinski sign (+), left limb muscle strength, muscle tension normal, sputum reflex exists, pathological signs are not elicited, sensory system examination is not marked. The tongue is pale purple, the fur is white, and the veins are fine. Head CT results showed that no bleeding was seen. Head MRI results showed: cerebral infarction lesions on the left basal ganglia (near the central anterior gyrus). The PSG results showed that AHI was 25 times/h. Diagnosis of traditional Chinese medicine: stroke (qi deficiency and blood stasis); Western medicine diagnosis: cerebral infarction; obstructive sleep apnea hypopnea syndrome. Expelling the righteousness and strengthening the evil spirits, taking care of both the specimens, nourishing qi and nourishing blood, resolving phlegm and blood. Acupoints: the lower jaw: RN23, Wajjinjin, and Waiyuyue. Head: Yu's scalp acupuncture (head hole acupuncture needle method), the head is divided into seven zones, according to different dysfunctions to select the corresponding treatment zone, leaving the needle for 6-8 hours. In this case, the patient was treated with acupuncture at the apical area, the top area, the top outer area, the frontal area, and the temporal area. Neck: Double side GB20, Annian. Body acupuncture: LI15, LI14, LI10, SJ5, HT7; lower limbs take GB30, ST36, GB34, GB39, BL62, KI6. Acupuncture 2 times a day, each time holding the needle for half an hour, treatment for 14 days, for a course of treatment. On the 28th (two courses), the patient was again tested for PSG and the results showed that AHI was 14 times/h. After treatment, the diagnosis was mild OSAHS. Physical examination: Conscious, the language is slow and clumsy, the voice is hoarse, the drinking water is not obvious, the frontal pattern is symmetrical, the bilateral pupils are about 3mm, the light reflection exists, the eye movement is flexible, the right nasolabial groove is shallow, and the tongue is extended. Slightly right, the pharyngeal reflex is weakened, the right upper limb muscle strength is 2, the muscle tension is high, and the tendon reflex is active. The muscle strength of the right lower limb is 4-grade, the muscle tension is acceptable, and the tendon reflex is active. Right Hoffman sign (+), Babinski sign (+), left limb muscle strength, muscle tension normal, sputum reflex exists, pathological signs are not elicited, sensory system examination is not marked. And the patient reported that the symptoms of daytime sleepiness improved.

2 Discussion

Epidemiology shows that the number of apneas is closely related to the onset of ischemic stroke. The risk of stroke in the OSAHS population was 4.33 times that of the control group and the mortality rate was 1.98 times that of the control group. The incidence of OSAHS was significantly increased after stroke, and the proportion of recurrent stroke patients with apnea was 74%. Epidemiological studies have confirmed that in patients with apnea who have coronary heart disease, once a stroke occurs, the mortality rate is greatly increased, which is 5 times that of the control group[3]. Therefore, if patients can actively prevent cerebral infarction, they can fundamentally reduce the incidence of OSAHS.

The incidence of cerebral infarction in habitual snorers is 3~10 times higher than that of unhabituated snoring. OSAHS patients with cerebral arteriosclerosis, increased blood viscosity and hematocrit, increased platelet aggregation during hypoxia, combined with slow cerebral blood flow, easy to develop ischemic stroke at night[4]. Some patients have hemorrhagic strokes due to shallow
nighttime sleep, increased number of wakefulness, and poor nighttime rest, resulting in increased blood pressure and intracranial pressure. Pathological sleepiness caused by sleep-disordered breathing also increases the incidence of production and traffic accidents.

In this case, a typical patient with cerebral infarction with OSAHS was selected. The traditional acupuncture method was used to treat the patient's limb dysfunction by local and acupoints. According to the anatomical structure, the acupuncture points of the lower jaw were selected: RN23, Waijinjin, and Waiyuye to achieve the effect of stimulating the lingual muscles inside the mandible.

As a new method to treat cerebral infarction with OSAHS, acupuncture has higher acceptance and compliance, and the effect is more obvious. However, the mechanism by which acupuncture stimulates the tongue muscle to achieve treatment of OSAHS has not been fully elucidated, and further research is needed.

References:

Clinical characteristics analysis of phlegm-dampness syndrome of polycystic ovary syndrome with infertility

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Abstract
This study included 126 PCOS patients with infertility who were admitted to the gynaecological clinic of the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine. According to the criteria for TCM syndrome, there were 65 cases of phlegm-dampness syndrome and 61 cases of non-phlegm-dampness syndrome. SPSS 22.0 statistical software was used to compare and analyze the specificity of clinical indicators of phlegm-dampness PCOS with infertility. The results showed that patients with phlegm-dampness had high BMI, waist circumference, hip circumference and significant abnormalities in glycolipid metabolism.

Key words: PCOS with infertility, phlegm-dampness syndrome

Polycystic ovary syndrome (PCOS) is a complex disease common to reproductive dysfunction and endocrine disorders in women of childbearing age. The main clinical manifestations are rare ovulation or anovulation, ovarian polycystic changes, clinical manifestations of high androgen or hyperandrogenism, obesity, infertility, etc [1]. The incidence of PCOS in women of childbearing age is 6% to 10%, which is the main cause of ovulatory infertility,
accounting for 75% of anovulatory infertility [2], which seriously affects the quality of life and health of patients.

There is no PCOS disease name in ancient Chinese medicine books. According to its clinical manifestations, it can be classified as "retarded menstruation", "amenorrhea", "metrorrhagia and metrorrhagia" and "infertility". The statistical analysis of the distribution of TCM syndrome types of PCOS in modern literature shows that the phlegm-dampness syndrome ranks first [3]. Obstruction of turbid phlegm leads to the loss of unblocked chong ren, and uterus vein airway blockade is characterized by amenorrhea, infertility, and ovarian polycystic changes; turbid phlegm obstructed skin manifests as hairy, acne, and acanthosis.

Objective

This study explores the clinical features of patients with phlegm-dampness PCOS with infertility, and hopes to provide a theoretical basis for individualized treatment of disease and prevention of long-term complications.

Materials and methods

Based on the case data collected from the clinical research information integration platform, this study reviewed 126 PCOS patients with infertility who were admitted to the gynaecological clinic of the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine from January 2016 to January 2019. According to the "Traditional Chinese Medicine Gynecology" textbook[4] and "Guidelines for Clinical Research of New Drugs in Traditional Chinese Medicine”[5], 126 patients were divided into Spleen-deficiency and phlegm-turbid stagnation syndrome, kidney deficiency and liver stagnation syndrome, phlegm and blood stasis syndrome, and kidney deficiency and blood stasis syndrome. Among them, Spleen-deficiency and phlegm-turbid stagnation syndrome and phlegm and blood stasis syndrome were classified into phlegm-dampness syndrome, a total of 65 cases, kidney deficiency liver stagnation syndrome and kidney deficiency and blood stasis syndrome were classified as non-phlegm-dampness syndrome, a total of 61 cases. Statistical analysis was performed on the data using SPSS 22.0 software. Measurement data were expressed as mean ± standard deviation ( x ± s), using independent sample t test; count data using χ² test.

Results and discussion

There was no significant difference in age and infertility time between patients with phlegm-dampness and non-phlegm-dampness. Compared with non-phlegm-dampness patients, systolic blood pressure, diastolic blood pressure, body weight, BMI, waist circumference and hip circumference were significantly higher in patients with phlegm-dampness, and the difference was statistically significant (p<0.05).

The incidence of overweight or obesity in patients with phlegm-dampness was significantly higher than that in patients with non-phlegm-dampness (p<0.05). Compared with non-phlegm-dampness patients, the incidence of hairy and acanthosis in patients with phlegm-dampness is on the rise. The LH and LH/FSH of patients with phlegm-dampness were significantly lower than those of non-phlegm-dampness patients, and the difference was statistically significant (p<0.05).

Compared with non-phlegm-dampness patients, blood glucose and insulin levels were higher in patients with phlegm-dampness, the difference was statistically significant (p<0.05), and the incidence of insulin resistance was also significantly increased (p<0.05). Although there is no statistical difference in the remaining indicators, patients with phlegm-dampness have higher levels, and it can be seen that patients with phlegm-dampness are more likely to have abnormalities in glycolipid metabolism than patients without phlegm-dampness syndrome.

In summary, phlegm-dampness syndrome is one of the main syndromes of PCOS patients with infertility; phlegm-dampness PCOS with infertility patients have obvious abnormalities of glycolipid metabolism, and IR is an important metabolic feature. It is clear that the clinical and endocrine metabolism characteristics of phlegm-dampness PCOS with infertility patients are of great significance for the clinical diagnosis and characteristic treatment of diseases.
The clinical application of anatomy trains in the treatment of low back pain with acupuncture

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Abstract: Acupuncture motor therapy is a kind of acupuncture combined with the movement of the affected part, which is widely used in the treatment of low back pain. Its movement principle is related to the myofascial membrane described in Anatomy Train. This article analyzes the theory of acupuncture combined with motor therapy in the treatment of lumbago from the perspective of myofascial theory, so as to be helpful for the clinical diagnosis and treatment of lumbago.

Keywords: anatomy trains, low back pain, acupuncture exercise therapy

Low back pain, one of the common diseases in outpatient department, is a disease characterized by pain on one side or both sides of the waist and back, which can be accompanied or not accompanied by radiation pain of the lower extremities \cite{1}. Among the 43 diseases recommended by WHO for acupuncture treatment, back pain is one of them. As one of the traditional Chinese medicine therapies, acupuncture and moxibustion has attracted great attention worldwide \cite{2}, and its effectiveness in treating back pain has been widely recognized at home and abroad.

Acupuncture exercise therapy is a kind of treatment method which combines acupuncture with exercise at the same time. Since the emergence of acupuncture exercise therapy on the concept of many scholars, its developing constantly, "air stitch" \cite{3}, "sports stitch" \cite{4}, although is different, but its core idea is pointer stab at the same time (twisting or acupuncture needle) at the same time cooperate with activity (or limb) to treat disease of department of a kind of method, using the idea of treating diseases scope expands unceasingly, also clinical also has obtained the good curative effect.

There are many reports on the application of acupuncture exercise therapy in the treatment of acute back pain, and the curative effect is significant. Jiang lihua \cite{5} used local shallow puncture combined with active exercise to treat acute lumbar sprain, which was more effective than the ordinary acupuncture group. Active exercise included forward and backward leaning and left-right rotation. There are many acupuncture point selection methods in acupuncture exercise therapy. Traditional acupuncture includes proximal point selection, distal point selection, dialectical point
selection and symptomatic point selection. In addition, there are left-right point selection and upper and lower point selection [7]. Most of the exercise parts of acupuncture exercise therapy [5-8] use the local movement of the affected side after acupuncture to get qi, and there are active exercise therapy, such as yoga [9], pilates. Both active and passive movements are still focused on the local body, without the whole idea or the connection idea. The anatomy train provides us with a good mind map in this respect.

The author of Anatomy Train is an expert in the fields of anatomy, manual therapy, kinematic chain and biomechanical science, thomas based w.myers (USA). "Anatomy train" breaks the traditional anatomical theory of muscle as a single "part" study, the author through the muscle fascia series, the muscle associated with a functional unit, put forward the "muscle fascia line". Myofascial function and mechanical transfer describe the functional integrity of the human body, consisting of a continuous network of myofascial membranes. The book provides a new, holistic therapeutic strategy for restoring and improving posture and motor function.

Anatomy trains is interconnected myofascial tissue as myofascial meridian, and low back pain have a common material base, but the concept of the anatomy of the train line broke the previous concept of isolated muscle, pay attention to the overall biomechanical balance of human body, this is also a kind of embodiment of overall concept, it is our understanding of myofascial pain opens up a new train of thought. Cheng tingshu [10] based on the theory of anatomy train, rehabilitation treatment of chronic plantar fasciitis achieved good results. First, the superficial dorsal line was loosened to relax the plantar fascia, and then the superficial front line was loosened to achieve a new balance in the biomechanics of the fascia, so as to thoroughly treat plantar fasciitis. The superficial dorsal line and the superficial front line are two antagonistic lines. Compared with traditional massage, this method focuses on the overall biomechanical balance of human body. Incorporating this biomechanical concept of balance into the treatment of back pain with acupuncture will allow patients to exercise more specifically.

Discussion

Anatomy trains from above or on the basis of anatomical architecture, nature "in the description of standard of anatomy, the concept of muscles, bones give us a purely mechanical model about sports, the sports divided into independent functional areas, and neglect it in vivo is a seamless whole, when a certain part of the human body movement, the whole body in the response [11]."Acupuncture and anatomy are typical theoretical representatives of eastern and western medicine. How to bring the two into full play with perfect combination? Acupuncture sports therapy combines acupuncture with sports and perfectly combines the two. The anatomy train is based on the whole theory of anatomy, which coincides with the whole concept of TCM.

How to better combine acupuncture with sports and play a greater role in other diseases needs to be explored in future clinical practice. According to guan ling, the translator of anatomy train, we have been told by the laws of nature that as long as the direction is the same, we must lead different paths to the same destination. However, the anatomical train is not perfect, and it has been gradually improved through constant practice and observation. How to perfectly combine acupuncture with therapy requires constant practice and summary, so that acupuncture can be exercised further by taking the anatomical train.

References
Clinical Observation on 90 Cases of Hypertension Complicated with Hyperlipidemia Treated with Huayu Wendan Decoction

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Abstract:
To observe the clinical efficacy of Huayu Wendan Decoction in the treatment of hypertension complicated with hyperlipidemia. Ninety patients with hypertension and hyperlipidemia admitted to our hospital from May 2018 to May 2019 were randomly divided into experimental group and control group, with 45 cases in each group. The control group was treated with nifedipine controlled release tablets combined with atorvastatin. The experimental group was treated with Huayu Wendan Decoction on the basis of the control group, and the blood pressure index and blood lipid index of the two groups were observed. After treatment, the blood pressure and blood lipid levels of the experimental group were significantly better than the control group, P<0.05, the difference was statistically significant. In the treatment of hypertension combined with hyperlipidemia, the clinical effect of adding Huayu Wendan Decoction on the basis of western medicine treatment is better than that of western medicine alone.

Key words: Huayu Wendan Decoction; hypertension; hyperlipidemia

Hypertension complicated with hyperlipidemia is a common clinical refractory metabolic disorder. Hypertension is mainly caused by an increase in arterial blood pressure, leading to heart disease or kidney disease, and high blood lipids are mainly caused by adipose tissue transport disorders, which induce abnormal serum total cholesterol levels. TCM believes that drug therapy should be used in combination with the pathogenesis to form a conditioning effect in all aspects. The following is a clinical observation of 90 patients with hypertension and hyperlipidemia admitted to our hospital from May 2018 to May 2019 was treated with Huayu Wendan Decoction.

Objective:
To observe the clinical efficacy of Huayu Wendan Decoction in the treatment of hypertension complicated with hyperlipidemia.

Materials and Methods:
Basic information. From May 2018 to May 2019, 90 patients with hypertension and hyperlipidemia were admitted to our hospital. They were divided into experimental group and control group by random number table method, and 45 cases in control group, including 24 males and females. In 21 cases, the control group was 45-78 years old, with an average age of
(53.62±1.54) years, a disease course of 5-12 years, and an average disease duration (8.47±1.32) years. There were 45 patients in the observation group, including 25 males and 20 females. The control group was 46-80 years old, with an average age of (52.92±1.48) years, a disease course of 4-13 years, and an average disease duration (8.63±1.24) years. There was no significant difference in the ratio of male to female, mean age, and mean duration of disease between the two groups, P>0.05, which was comparable.

Inclusion criteria: All the tests met the diagnostic criteria for hypertension and hyperlipidemia; informed of this study and signed consent to participate in the study. Exclusion criteria: severe cardiovascular and cerebrovascular events such as myocardial infarction and cerebrovascular accident in the past six months; severe liver and kidney dysfunction, organic heart disease, diabetes, high blood pressure, alcohol abuse or history of drug abuse, hypothyroidism, etc. And refused to participate in this study

1.2 Methods

1.2.1 The control group was treated with nifedipine controlled release tablets (pharmaceutical company: Bayer HealthCare Co., Ltd.; National Drug Standard: J20130115) for oral administration, 10-20 mg each time, once a day; Statins (pharmaceutical company: Pfizer Pharmaceutical Co., Ltd.; National Pharmaceutical Standard: J20030047) for lipid-lowering treatment, oral, 10 mg each time, once a day. On the basis of this, the experimental group added Huayu Wendan Soup.

1.2.2 Composition of Huayu Wendan Decoction: Rhizoma Pinelliae 9g, Caulis Bambusae in Taeniam 9g, Fructus Aurantii Immaturus 9g, Pericarpium Citri Reticulatae 9g, Radix Paeoniae Alba 15g, Poria cocos 15g, Panax notoginseng 7.5g, Baical Skullcap Root 7.5g, Liquorice Root 9g, Fresh Ginger 5g, Chinese jujube 5g. decoct these herbals with water to 300ml everday, taking orally once in the morning and once in the evening for 28 days.

1.3 Judging indicators: Comparison of diastolic and systolic blood pressure, TC, TG, LDL-C, HDL-C indicators before and after treatment, blood pressure and blood lipids were assessed.

1.4 Statistical analysis. The data were statistically analyzed by SPSS 19.0 software. The statistical results showed that the difference was statistically significant at P<0.05. P>0.05 was not statistically significant.

Results and discussion

By analyzing the blood pressure and blood lipid indexes of the two groups, it was found that he experimental group was superior to the control group. The comparison between the groups was P<0.05. The difference was statistically significant. See Table 1 and Table 2 for details.

### Table 1 blood pressure of two groups of patients (x ± S, mmHg)

<table>
<thead>
<tr>
<th>Group</th>
<th>time</th>
<th>Systolic blood pressure</th>
<th>Diastolic blood pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test group (n=45)</td>
<td>Before treatment</td>
<td>150.32±4.48</td>
<td>95.74±3.21</td>
</tr>
<tr>
<td></td>
<td>After treatment</td>
<td>123.49±5.16</td>
<td>82.62±4.15</td>
</tr>
<tr>
<td>Control group (n=45)</td>
<td>Before treatment</td>
<td>152.01±4.91</td>
<td>96.09±4.64</td>
</tr>
<tr>
<td></td>
<td>After treatment</td>
<td>141.57±5.74</td>
<td>91.78±4.24</td>
</tr>
</tbody>
</table>

Note: compared with the control group, *P<0.05

### Table 2 Blood lipids in two groups of patients (x ± S, mmol/L)

<table>
<thead>
<tr>
<th>Group</th>
<th>time</th>
<th>TC</th>
<th>TG</th>
<th>LDL-C</th>
<th>HDL-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>test group (n=45)</td>
<td>Before treatment</td>
<td>6.37±0.32</td>
<td>1.94±0.45</td>
<td>4.61±0.54</td>
<td>1.08±0.57</td>
</tr>
<tr>
<td></td>
<td>After treatment</td>
<td>3.41±0.18</td>
<td>1.12±0.36</td>
<td>2.34±0.63</td>
<td>1.58±0.94</td>
</tr>
<tr>
<td>Control group (n=45)</td>
<td>Before treatment</td>
<td>6.46±0.39</td>
<td>1.96±0.44</td>
<td>4.59±0.53</td>
<td>1.04±0.49</td>
</tr>
<tr>
<td></td>
<td>After treatment</td>
<td>4.52±0.87</td>
<td>1.55±0.87</td>
<td>3.82±0.51</td>
<td>1.21±0.73</td>
</tr>
</tbody>
</table>
Hypertension combined with hyperlipidemia is a chronic and common metabolic disorder disease. At present, Western medicine treatment can effectively alleviate various diseases, but it is difficult to achieve therapeutic effect at all, and the incidence of adverse reactions is high. From the perspective of Chinese medicine, the onset of such diseases is mostly due to addiction to eating greasy food, resulting in the spleen failing in transportation and causing water-dampness and turbid phlegm which can be transform into internal heat and causes blood stasis after long-term accumulation in one’s body. The prescription of Huayu Wendan Decoction is based on Wendan Decoction, adding Baical Skullcap Root to clearing heat and dispelling dampness, adding Panax notoginseng and Radix Paeoniae Alba to activating blood and dispelling stasis, which follows the therapy of "diaphoresis, purgation and diuresis", so that the dampness heat of triple energizers is removed and the stasis and turbidity are dispelling.

In summary, the combination therapy of Huayu Wendan Decoction and western medicine can accelerate the recovery rate of patients with hypertension complicated with hyperlipidemia, and has few adverse reactions, so this prescription has high clinical application value.

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Overview of development prospects of Chinese medicine in Russia

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3.

Abstract: The medical exchange between China and Russia has a long historical background. The special geographic location, geographical conditions and cultural traditions determine the possibility and necessity of strengthening cooperation between the two countries. It is of far-reaching historical significance and strategic significance for Russia to carry out Chinese medicine education. With the increase of Sino-Russian trade exchanges and the formation of China-Russia Chinese Medicine Innovation Alliance, the Russian people’s acceptance of Chinese medicine has gradually increased. This article discusses the use of Chinese medicine in the Russian public to illustrate the future development prospects of traditional Chinese medicine, and the development trend of Chinese medicine internationalization.

Key words: Chinese Medicine; Russia; Development

Chinese medicine not only has a huge mass base in our country, but also accompanies a series of national policies and initiatives, such as the establishment of the National Alliance for the Promotion of Traditional Medicine in the Silk Road Economic Belt, the formation of an extensive network of traditional medicine in the BRICS countries, and the Sino-Russian Chinese medicine. With the establishment of the Innovation and Development Alliance, the dissemination and influence of Chinese medicine in the world have been expanding.

Objective
This article explores the prospects for the development of Chinese medicine in Russia through analysis of the local medical market in Russia and the incidence of local people, as well as the development of traditional Chinese medicine in modern medicine.

1. Russia has the premise of planting herbs and using Chinese herbs Many Chinese herbal medicines are widely distributed in Russia, which has created a material basis for the development of Chinese medicine in Russia. Herbs such as Gujingcao, Achyranthes bidentinos, and Chinese gallnut have been widely distributed in Russia. At the same time, animal medicines in some traditional Chinese medicines are also widely distributed in Russia and are huge in quantity. Traditional doctors and early official doctors have studied plants, and scientists have isolated one or more pharmaceutical ingredients from separate herbs in the laboratory and have produced new drugs that are more powerful than the original plants. Such as aspirin, codeine, digoxin, etc. are all derived from plants. In the past decade or so, with the increase in political, economic, and cultural exchanges between China and Russia, the Russian public has become more and more knowledgeable about Chinese medicine[1]. They learned that traditional Chinese medicine can not only constitute a variety of different decoctions for treatment, but also have many therapeutic effects. Significant Chinese medicine. Therefore, Chinese medicine has a great prospect in the Russian market.

2. Russian common diseases Russia is at a high latitude and the climate is cold. In many studies, it has been shown that cold can not only cause frostbite damage, but also can damage the body's movements, cardiovascular, immune and nervous systems and other systemic injuries, and induce related diseases. In 2015, the List of Disease Burdens in Russia mentioned that cardiovascular and cerebrovascular diseases rank first in the common diseases of the Russian public. In addition, the local people are addicted to alcohol and fattening. It is easy to cause deficiency of spleen yang, loss of spleen and health, transportation of liquid water, and the accumulation of water in the body. In case of cold wind, it will cause wind, cold, dampness and evil. Coincide with the five internal organs made for the Bi disease. This also makes rheumatic diseases have a higher incidence in the Russian public.

3. The links between common diseases in Russia and Chinese medicine Studies have shown that the demand for traditional Chinese medicine in the hypertensive patients in Russia is increasing, and due to the geographical environment of Russia, the incidence of local rheumatic diseases is also high. In many traditional Chinese medicines, some scholars have shown that Fangji and Sanqi have a good antihypertensive effect, but Pinellia Baizhu Tianma Decoction has a significant effect on hypertensive patients with phlegm and blood stasis, so this article also discusses the role of Pinellia. In the treatment of rheumatic diseases in Chinese medicine, Aconitum and aconite have a significant effect, because of their toxicity is also relatively strong, it will discuss the modern pharmacology of insect drugs.

4. Modern research and application of common Chinese medicine (1) Fangji has benefits of water swelling, chills and pain relief. According to modern pharmacological studies, tetrandrine (Tet), which is found in the root of Stephanin tetandra, has anti-inflammatory, anti-pyretic and analgesic effects. Some scholars have found in the study that Tet can inhibit the L- and T-type calcium channels of cardiomyocytes and antagonize the α-adrenergic receptors on the vascular smooth muscle cell membrane, which can act as a vasodilator. Yang Chunling and others in the isolated rabbit aortic rings of pinacidil and Tet study results show that Tet on low concentration and high concentrations of potassium chloride caused by vasoconstriction are inhibited, Tet mainly inhibits voltage-dependent calcium on the cell membrane Channels that dilate blood vessels also have very weak alpha 1 receptor blockade. In addition, Tet has a positive effect on antiarrhythmic effects, anti-cardiac hypertrophy, and anti-ischemic myocardial reperfusion[2]. (2) Pinellia has the effect of resolve phlegm and eliminate lumps. Through modern pharmacological studies, it was confirmed that Pinellia ternata and Pinellia tuberculosus have antitussive and expectorant effects, and that Pinellia ternata has a delayed effect on platelet aggregation, which can reduce the blood viscosity and significantly inhibit the aggregation of red blood cells. In addition, Pinellia also has anti-inflammatory and anti-arrhythmic effects. Recent studies have shown that Pinellia total protein
has anti-tumor effects[3].(3)Insect medicine At present, it is believed that insecticides have immune regulation, sedative analgesia, anti-inflammatory, anti-rheumatic, anti-allergic, anti-tumor effects. Modern pharmacological effects on worms are studied in terms of anti-inflammatory analgesia, improvement of microcirculation and immune regulation. Professor Zhu Liangchun thinks that worms not only have the property of “insect ants searching for ticks”, but also because worms themselves are animal allogeneic proteins and are rich in amino acids and trace elements, especially fresh drugs, and contain a large amount of biologically active substances. Swelling and pain relief, reduce synovial inflammation, repair chondrocyte hyperplasia, and regulate immune function. Shen Jie et al. observed the hydrolysis of black snakes by observing the effects of the black snake liquid hydrolysate on inflammatory cytokines TNF-α, IL-1β and anti-inflammatory cytokines IL-4, IL-10 in collagen-induced arthritis rats. The therapeutic effect of the fluid is related to the regulation of the levels of inflammatory and anti-inflammatory cells, which can reduce the incidence of collagen-induced arthritis in rats and improve the symptoms of arthritis[4].

Conclusion

1. The application of Chinese herbal medicine in our country has a history of thousands of years. With the advancement of modern medicine, we also have a deeper research on the specific components of the drug and the effective ingredients that exert the curative effect, so that the corresponding drugs can exert more significant effects. 2. With the economic recovery in Russia, the demand for pharmaceuticals continues to increase, the pharmaceutical market has great potential, and Chinese medicine has a certain market base in Russia. The Russian traditional medicine market is an important market for Chinese pharmaceutical companies with broad development potential. Understanding Russia’s policies and regulations on traditional medicine and strengthening its understanding of the Russian pharmaceutical market will increase more cooperation opportunities.

References:

Preliminary Study On The Relationship Between Anxiety And Chronic Primary Thrombocytopenic Purpura

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Abstract: Chronic primary thrombocytopenic purpura (CITP) is common in adults, mostly in the 20 to 50 years old, and the ratio of male to female is about 1:3, which is an autoimmune disease. The exact etiology and pathogenesis have not yet been elucidated, and it is currently recognized as a result of the production of autoanti-platelet antibodies in the body. Modern research has shown that excessive or persistent anxiety can lead to imbalances in the body's environment and immune dysfunction. This article intends to explore the correlation between anxiety and the incidence of CITP through the theory of TCM internal injury emotion theory by combing the literature.

Key words: Anxiety, Chronic Primary Thrombocytopenic Purpura

Objective: To explore the relationship between anxiety and CITP by TCM internal injury emotion theory.
Materials and methods: Through a large number of collections of TCM internal injury emotion theory, purple patches of ancient literature, various doctrines and clinical data, and screening for information related to anxiety, and analysis and combing to explore the correlation between anxiety and the incidence of CITP.

Results and discussion: Anxiety is an internal injury emotion pathogenic factor in the etiology of TCM. As early as the era of The Yellow Emperor's Inner Canon, there was a discussion. Plain· Great Treatise on the Correspondences and Manifestations of Yin and Yang said: "Excessive thought damages the spleen," and Magic Pivot· The Spirit said: "The spleen is sad and puzzled, and the injury is chaotic." Plain· Treatise on Pain: "Thought causes qi to bind." Modern scholars[1] believe that anxiety belongs to the spleen of TCM, that is, spleen depression. In addition, the scholar found in the clinical efficacy observation: the treatment group used Minor Center-Fortifying Decoction as the basic method, and the control group used Soothe The Liver And Resolve Depression capsule. The results showed that the recovery rate and efficiency of treatment group was better than that of control group. From this, we can see that anxiety disease is caused by thought injury. The disease is in the spleen. The pathogenesis of the disease is caused by the spleen's inability to form essence-blood, resulting in stagnation depression of spleen qi and thus forming spleen depression. Some modern Chinese medicine scholars believe that the spleen is closely related to the incidence of CITP. For example: Professor Weizheng Sun[2] believes that the spleen controls the blood, and the unified pulse is to take blood, so that the blood stays in the channels failing to move frenetically, restricting the normal operation of the whole body's blood in the vasculature without spilling out of the pulse, and spleen vacuity will fail to control the blood caused blood to not return to the meridians and cause bleeding in the parts of the limbs, such as the nine limbs, to form spontaneous external bleeding and purpura. Professor Chengshan Deng[3] believes that spleen-kidney vacuity, qi vacuity containment failure, and blood failing to stay in the channels. In summary, the spleen has an important role in the pathogenesis of CITP. Anxiety leads to spleen depression, and then the spleen fails to control the blood, which leads to the spleen low function of the control the blood system, and thus the blood failing to stay in the channels. In addition, anxiety leads to the generation of transformation qi. Transformation qi, that is, the collective name of internal evil qi in Chinese medicine. In recent years, some scholars[4] had combed and reconstructed the theory of Chinese medicine transformation qi based on the ancient literature system, thus laying the foundation for the development of Chinese medicine internal injuries. The scholar mentioned in the article that the five emotions are too extreme, causing counterflow ascent of qi dynamic, which can induce the formation of transformation qi, thus damaging the internal organs and causing the occurrence of internal injuries. It is also mentioned that the theory of Chinese medicine transformation qi is used to explain the etiology and pathogenesis of some autoimmune diseases in modern medicine, thus providing a direction for the treatment of autoimmune diseases. With the development of society and the acceleration of the pace of life, anxiety has become the most common negative mood. Anxiety can have many effects on people's physiology and psychology, thus inducing some series of diseases. The author explores the relationship between anxiety and CITP through the theory of TCM internal injury emotion theory. However, its specific internal mechanism needs further study to provide ideas for the treatment of clinical CITP.

References:
Clinical study on Traditional Chinese Medicine combined with Western Medicine on treatment of Kidney deficiency and depressed Liver syndrome of Premature Ovarian Failure

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Abstract
Premature ovarian insufficiency (POI), used to be called premature ovarian failure (POF), a clinical syndrome in which a woman's ovarian activity declines before age 40 and is characterized by menstrual disturbances (such as menopause or sparse menstruation) with the elevation of serum follicle-stimulating hormone (FSH) concentration (FSH > 25 IU/l) and low estrogen. In 2016, ESHRE[1] guidelines reduced the diagnostic threshold of FSH from 40U/L to 25U/L, aiming at early detection of women with ovarian dysfunction for early diagnosis and treatment, especially for women with fertility requirements. The diagnostic criteria for POI were: sparse menstruation or menopause for at least 4 months, > 4 weeks interval, twice FSH>25U/L consecutively (ESHRE diagnostic threshold). Development of hypergonadotropic hypogonadism before the age of 40 affects approximately 1-2% of women[2]. The consequences of POI can be divided into short and long-term consequences. The short-term consequences mostly result from prompt oestrogen deficiency, include vasomotor symptoms like hot flushes, night sweats, heart palpitations or headaches[3]. The long-term health risks of POI are infertility, osteoporosis, cardiovascular and neurologic diseases and an increased risk of premature death. The causes of POI are involved with genetic factors, immunological factors and iatrogenic factors, and the etiology of most patients remains unclear[4]. Although many researchers have focused on the mechanism, diagnosis and treatment of POI in recent years, much remains to be explored. The hormone replacement therapy (HRT) is main treatment in western medicine for relieving clinical symptoms caused by low estrogen level, which can improve the quality of life, considered an effectively preventative and therapeutic option to manage complications related to POI. Traditional Chinese medicine (TCM) and acupuncture is also proved to be a potent effective management. POI is a complex and heterogeneous disease, which is difficult to treat and has a serious impact on women's physical and mental health. In recent years, the incidence of premature ovarian failure has been increasing year by year and gradually becoming younger. Therefore, how to choose an effective treatment is an important issue that needs to be solved.

Key words: premature ovarian insufficiency, Traditional Chinese medicine, hormone replacement therapy, Acupuncture

Objective
POI not only affects women's fertility, but also significantly increases the risk of early menopause-related chronic diseases and early death. This clinical experiment explores the clinical efficacy of acupuncture combined with medicine in the treatment of deficiency kidney and depressed liver syndrome of POI. The clinical randomized controlled trial was used to observe the TCM syndromes and the levels of follicle stimulating hormone (FSH), estradiol (E2). The improvement trends of anti-müllerian hormone (AMH) and inhibin B (INHB) were evaluated the therapeutic effect.

Methods
From December 2017 to May 2019, 88 patients diagnosed with POI at the Department of Gynecology, the First Affiliated Hospital, Heilongjiang University of Chinese Medicine Gynecology were selected. They were divided into three groups according to random number method: Acupuncture + TCM + HRT (34 persons), Acupuncture + TCM (28 persons), TCM +
HRT (26 persons). Acupuncture at Taixi, Guanyuan, Sanyinjiao, Zusanli, Xuehai, uterus, Taichong and Zhongji, with needle retained for 20 minutes, every other day at a time, the menstrual injection was stopped. The TCM is Er-xian Decoction, composed of Rhizoma curculiginis 15 gram, Epimedium 15 gram, Morinda officinalis 15 grams, Cortex phellodendri 12 grams, Rhizoma anemarrhenae 12 grams, Chinese angelica 12 grams, 100 ml, twice daily, taking warmly after dinner in the morning and evening. The HRT is oral conjugated equine estrogens 1 mg/tablet, 1 tablet /d, take at night before going to bed, continue to take 21 days, the last 10 days add progesterone capsule 100 mg/tablet every day, 2 pills every day, take at night before going to bed.

Results and discussion

In terms of TCM syndromes, the general curative effect rate of Acupuncture + TCM + HRT group was 92.1%, the Acupuncture + TCM group was 65.8%, the TCM + HRT group was 73.6%, there were significant difference among the three groups (P < 0.05). In terms of serum hormone levels, there were significant difference in FSH and E2 levels among the three groups (P < 0.001). Compared with the other two groups, there were significant difference in improving FSH, E2 levels among the three groups (P < 0.05). In terms of cytokines, there were significant difference in the levels of INHB and AMH (P < 0.001). Compared with the other two groups, the levels of INHB and AMH in Acupuncture + TCM + HRT group were significant different (P < 0.05). When treating patients with POI, the combination of acupuncture and TCM and HRT can significantly improve the total therapeutic efficiency and relieve clinical symptoms, compared to used two of them alone.

Currently, the treatment of POI is mainly based on HRT in western medicine. Estrogen and progesterone are widely used and must be used for a long time. If they stop taking them, the recurrence rate will be high. Therefore, western medicine should be combined with TCM and acupuncture therapy to promote the recovery of ovarian function. TCM believes that the kidney govern reproductive, kidney Yin deficiency is the pathological source of POI, Liver depression caused by emotional factors are the main cause of POI. Er-xian Decoction has a good effect of tonifying kidney and soothing liver. Modern pharmacology has proved that Morinda officinalis contains vitamin E and has the effect of enhancing ovarian function and anti-aging. Epimedium has estrogen-like effect, which can make female rats ovaries and uterus gain weight, make kidney essence to be filled up, and make Tiangui to be replenishment. Meanwhile, it is equipped with Taixi and Sanyinjiao to replenish kidney essence, Guanyuan, Xuehai, Zusanli and uterus to regulate Chongren, Taichong and Zhongji soothing liver. TCM with acupuncture points fundamentally regulates the secretion function of hypothalamus-pituitary-ovary, so as to harmonize Yin and Yang, make kidney essence sufficient, flush and fill up, and finally reach the dynamic balance of reproductive endocrine. This study shows that HRT combined with TCM and acupuncture has a significant effect on the treatment of POI with deficiency kidney and depressed liver, which should be promoted clinically.

References:
Metabolomics research on the protection of DMN-induced liver injury by "Soothing the liver and relieving depression" method

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Abstract
Soothing liver and relieving depression is mainly reflected in regulation emotion. In this research, the originator of "soothing the liver and relieving depression" prescription Sini powder intervenes the DMN (Dimethyl nitrosamines)-induced liver injury model, the changes of amino acids and liver injury indexes in serum were detected through the research platform of serum metabolomics based on LC/MS technology. The result shows that modified Sini powder significantly reduces the activity of ALT and AST after treatment, the contents of phenylalanine, tyrosine and tryptophan are changed in metabolomics results. These amino acids are precursors of the anabolism of neurotransmitters such as serotonin and dopamine. Conclusion: Modified Sini powder can significantly improve liver function in experimental rat model of liver injury, it is consistent with the theory of "liver leading to dredge and regulate emotion" in traditional medical theory.

Key words: Metabolomics; ALT; AST; emotion; DMN; liver injury

Liver is one of the most important organs in our body, which is responsible for metabolism and detoxification, so it is more vulnerable to be injured caused by various poisons or metabolites than other organs. Various harmful factors such as viruses, drugs, poisons, hypoxia, free radicals, immune factors, etc, could injury the liver directly or indirectly, causing inflammation, necrosis and apoptosis of liver cells, and further develops into a series of pathological changes such as liver fibrosis, cirrhosis and primary liver cancer. Liver injury is the primary link and common way for many serious liver diseases to occur, develop and eventually lead to liver failure. Protecting liver cell, reducing or preventing liver injury, can not only prevent the progressive damage of liver function, and still can reverse liver fibrosis and inchoate cirrhosis. Therefore, the protection of the liver is indispensable in the treatment of liver disease and plays an important role.

Traditional Chinese medicine has shown a broad prospect in the research of protecting liver cells, promoting liver cell regeneration, repairing and reducing liver injury. "Sini powder" is the originator of "soothing the liver and relieving depression" prescription, clinically, it is mainly used for depression caused by liver qi stasis and liver failing to act freely. It has the effect of soothing liver and benefiting qi, smoothing and clearing knot, clearing heat and detoxifying. After many years of clinical observation, this prescription has a good effect on improving liver function and repairing liver injury.

Objective
Comparing the metabolites of liver injury rats with those of normal rats through the serum metabolomics research platform, to determine the "metabolomics characteristics" and small molecular markers of liver injury. To clarify the target and mechanism of TCM compound action, through the changes of amino acids and liver injury indexes in serum were detected by the research platform of serum metabolomics based on LC/MS technology.

Materials and methods
The whole recipe consists of seven herbs: Radix bupleuri 15g, Radix paeoniae alba 15g, Immature Bitter Orange 15g, Astragalus 30g, Oyster shell 100g, bear gall powder 2g, licorice 15g, the compound preparation has been successfully developed into granules. The experimental group are given modified sini powder by gavage. The serum of model group, control group and experimental group were respectively analyzed by research platform of serum metabolomics based on LC/MS technology. Comparing the metabolites in serum those changes significantly. Find out the metabolic pathway of the body where the metabolites are.
Results and discussion
The indexes of ALT and AST in serum of rats in the experimental group were significantly lower than those in the model group. Therefore, modified Sini powder can significantly improve the liver function of experimental rat liver injury model.

Modern pharmacological research shows that the main active ingredient of bupleurum chinensis is Pentacyclic triterpenoids bupleurum saponins (SS) α-f, it has the functions of sedation, antipyretic analgesia, anti-inflammatory and immune regulation[1]. Research shows that SS has a certain protective effect on liver injury. Radix paeoniae alba has multiple ways to inhibit autoimmune reactions, as well as anti-inflammatory, analgesic, liver protection and autoimmune inhibition and other pharmacological effects[2]. The components in licorice can enhance the ability of cell to synthesize proteins, improve the activity of scavenging free radical enzymes, and enhance the antioxidant capacity of liver cells.

Metabolomics results showed that phenylalanine, tyrosine and tryptophan contents in serum of rats were changed, and they're in the same metabolic pathway. Neurotransmitters such as serotonin, dopamine and norepinephrine are produced during metabolism, these neurotransmitters have an impact on people's emotional and spiritual activities. Modified Sini powder has different regulation effect on metabolism track, which is consistent with the traditional medical theory of "liver leading to dredge and regulate emotion" and the efficacy characteristics of modified sini powder.

Clinical research found that every time the cerebral cortex appears excited and inhibited, or vegetative nerve function changes, will affect the physiological function of the liver and pathological changes. Studies at home and abroad have shown that norepinephrine has a degree of protection for liver damage. Some studies suggest that dopamine inhibits the activation of NLRP3 inflammatory corosomes through its receptor DRD1. It can protect and repair injury cells of kidney and myocardium[3]. One study suggested that 5-ht stored in platelets may be involved in the initiation of liver regeneration and that 5-HT agonists may be a therapeutic option for improving liver injury. We expected to elucidate the pathway of neurotransmitter action on liver through later research, this is a new breakthrough point for the combination of traditional Chinese medicine theory and modern science.

References:

Clinical Observation of Warm Acupuncture for Postoperative Gastroparesis Syndrome

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Abstract
Postoperative gastroparesis syndrome (PGS) refers to gastric dynamic disorder, characterized by functional gastric emptying disorder and is a non-mechanical obstruction. At present, there is no unified understanding of the disease in the domestic and overseas, and there is no specific drug and treatment. Many clinical studies have shown that acupuncture is a safe, effective, and side-effect
method for postoperative nausea and vomiting in different countries. The author's tutor used the warm acupuncture in treating postsurgical gastroparesis syndrome and the clinical effect was significant, which is worth further analysis and research.

**Key words:** warm acupuncture, postsurgical gastroparesis syndrome

Post-surgical gastroparesis syndrome, also known as functional gastric emptying disorder, often occurs after abdominal surgery. The PGS is characterized by delayed gastric emptying, gastric atony and gastric paralysis as a result of gastric dysfunction after abdominal surgery. Which incidence reported in China is about 5–10 % (Liu et al. 2006). In China, many patients choose or some doctors recommend using acupuncture to treat postoperative gastroparesis syndrome. In our hospital clinic, my tutor often selects acupuncture points (like neiguanPC6, zhongwanCV12, zusanliST36, tianshuST25, etc.) as a conventional treatment. In some patients, we found that the use of warm acupuncture to treat postoperative gastroparesis syndrome is better. Therefore, we did this clinical study.

**Objective**

To investigate and assess the clinical efficacy of warm acupuncture in treating postoperative gastroparesis syndrome.

**Materials and methods**

A total of 26 patients who came to our hospital from January 2017 to January 2019 were treated futilely with Western medicine (gastrointestinal decompression, gastric motility drugs, etc.) Twenty-six patients with postoperative gastroparesis syndrome were randomly allocated to treatment and control groups, thirteen cases each. The control group received conventional acupuncture, while the treatment group received warm acupuncture. Then, the changes in gastric fluid volume (ml/d) before and after treatment were observed. Simultaneously, the number of treatments and the recovery rate were recorded in the patients. Comparisons of them were made between the two groups.

**Results and Discussion**

The main clinical manifestations of PGS are a feeling of fullness in the upper abdomen, nausea and vomiting, which can be divided into two types: partial heat and partial cold. Clinically, the second type is more, for instance, the sufferers prefer warm thing and have white and greasy tongue coating. Moreover, traditional Chinese medicine believes that the main responsibility of PGS is that inactivation of spleen-yang. Our ancestors believe “the spleen governing transportation and transformation”, “digest water and food”. Therefore, it is very important to make “the spleen” warm.

Warm acupuncture is a kind of combining acupuncture with moxibustion, which is also known as needle warming moxibustion. That is, in the process of acupuncture, the moxa cone is wrapped around the needle handle to ignite, and the heat is introduced into the acupuncture point through the needle body. In addition to the stimulation of acupuncture, there is also a warm effect. At the same time, warmth can be transmitted to the deep tissue of the body through the needle, which can dispel the cold evil in the patient's body.

In clinical research, there was a significant pre-/post-treatment difference in the number of treatments and the recovery and marked efficacy rate between the treatment and control groups. Thus, the warming acupuncture may be a striking method for PGS, with less therapeutic times, high cured rate and quick effect.

**References:**

Clinical study on post-stroke urinary retention treated with meridians elongated needle at the Shenque(CV8) and Ququan (LR8)

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Abstract:
Objective: To explore the method of improving the therapeutic effect of urinary retention after stroke. Methods: 60 patients with urinary retention after stroke were randomly divided into treatment group (30 cases) and control group (30 cases). Both groups were treated with routine clinical medication and basic rehabilitation. In the control group, Zhongji (CV3), Guanyuan (CV4), Sanyinjiao (SP5) and Yinlingquan (SP9) were treated with needle acupuncture. The treatment group was treated with needling at Shenque acupoint with awn needle, Quze on both sides, Sanyinjiao on both sides and Yinlingquan with filiform needle. Bladder function was compared before and after treatment. Results: The effective rate of the treatment group was 93.3% (28/30), which was better than that of the control group (70.0% (21/30), P < 0.01. Conclusion: Elongated needle therapy has obvious therapeutic effect on urinary retention after stroke at acupoints Shenque and Ququan.

Keywords: Elongated needle; Urine retention; Apoplexy; Couple stimulation

1. Background:
Uroschesis is a common sequelae after stroke. It is characterized by fewer abdominal distention, obstruction of urine, voiced sound in bladder area and residual urine volume \[\geq 100 \text{ mL} \]. Urinary retention after stroke belongs to the category of "diarrhea closure" in traditional Chinese medicine. Stroke patients suffer from kidney yang damage due to excessive dissipation of Yang Qi, bladder loss of kidney warmth, and gasification function restriction does not have the right to cause urinary self-suicide. At present, the clinical use of bladder training methods, acetylcholinesterase inhibitors and other treatments have limitations. Therefore, we should summarize the experience of treating this disease, open up new methods, and obtain the best curative effect when using awn needle. Based on the above background, this study discussed the clinical effect of awn needle in the treatment of urinary retention after apoplexy, which is described in detail as follows.

2. Materials:
Sixty patients who met the inclusion criteria were selected as subjects in the Five Ward of the Second Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine. The patients were randomly and equally divided into treatment group (30 cases) and control group (30 cases) according to the order of visits. Statistical analysis of the general data (gender, age, course of disease) of the two groups showed no statistical significance (P > 0.05), which was comparable.

3. Treatment:
Basic treatment: All patients were treated with basic disease drugs. They were treated with acupuncture and moxibustion for complications such as hemiplegia and aphasia. Give prohibit drugs and therapies that may affect bladder function.

Treatment methods:
Control group: Acupoint selection: Retention of Urine point selection, Guanyuan, Sanyinjiao and Yinlingquan. Operation: Before needling, patients empty their urine, take supine position, disinfect the skin of acupoints, use 0.30 mm*40 mm (1.5 inch) needle, needle point downward when needling Zhongji and Guanyuan, so that the needle sensation can reach perineum and cause abdominal contraction, not too deep needle. Sanyinjiao and Yinlingquan was needling for 30 minutes after arrivingal of qi. Two times a day, six days for a course. The course of treatment was one day apart, and two courses of treatment were observed continuously.
Treatment group: Selection of acupoints: Shenque, bilateral Ququan, Sanyinjiao and Yinlingquan. Operation: Prepare the same as the control group. Take a disposable sterile acupuncture needle 0.30mm*125mm (5 inch) to prick Shenque and Ququan. The needle angle is required to be 15 degrees, and the needle tip is pointed to the bladder. The needle angle is 30 degrees to the body surface and the point is 100 mm. The needle points to the bladder. The needle is opposite to the awn needle at Shenque. Acupuncture method and time of Sanyinjiao and Yinlingquan are same as the control group.

Evaluation index of curative effect:

B-mode ultrasound or catheterization are used to evaluate the efficacy of urinary retention in modern medicine. Cure: Patients can urinate independently, abdominal distension is alleviated, clinical symptoms disappear, residual urine volume (RUV) is 0-50ml. Significant effect: patients can urinate independently, but urination is not smooth, RUV is 50-150ml. Effective: patients urinate more than 150ml. Invalid: patients can not urinate independently, and clinical symptoms do not disappear.

4. Results:

4.1. Bladder function comparison

Before treatment, there was no statistical difference in the total score of bladder function scores between the two groups (T=-0.673 (p = 0.506 > 0.05). After treatment, the scores of the two groups of patients were significantly lower than before treatment (p < 0.01), and the scores of the treatment group were significantly lower than those of the control group (p < 0.01). The results are shown in Table 1.

<table>
<thead>
<tr>
<th>Number</th>
<th>Cases(N)</th>
<th>Before treatment</th>
<th>After treatment</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment group</td>
<td>30</td>
<td>2.7667±1.16511</td>
<td>1.5333±0.62881</td>
<td>4.889</td>
<td>P&lt;0.01</td>
</tr>
<tr>
<td>Control group</td>
<td>30</td>
<td>2.9667±1.12903</td>
<td>1.9667±0.66868</td>
<td>4.257</td>
<td>P&lt;0.01</td>
</tr>
</tbody>
</table>

1) \(T=-0.673, P=0.5062\). 2) \(T=2.644, P=0.013\)

4.2. Comparison of therapeutic effects

The total effective rate was 93.3%, which was higher than 70.0% in the control group and 88.7% in the floating needle group (T= 5.455, \(P = 0.030 < 0.05\)). As shown in Figure 2.

Table 2. Comparison of clinical efficacy between two groups of patients(N)

<table>
<thead>
<tr>
<th>Number</th>
<th>Cases</th>
<th>Cured</th>
<th>Markedly effective</th>
<th>Effective</th>
<th>Ineffective</th>
<th>Effective rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment group</td>
<td>30</td>
<td>5</td>
<td>15</td>
<td>8</td>
<td>2</td>
<td>93.3%</td>
</tr>
<tr>
<td>Control group</td>
<td>30</td>
<td>2</td>
<td>13</td>
<td>6</td>
<td>9</td>
<td>70.0%</td>
</tr>
</tbody>
</table>

5. Discussion:

In this study, elongated needle was used to penetrate Ququan and Shenque subcutaneously. The needle points of Ququan point to extend the Liver Channel to point to the lateral lower abdomen, and the needle points of Shenque to extend the Conception Channel to the Zhongji. Ququan acupoint is opposite to Shenque 's. After stroke, the patient's body essence and Qi stagnation, bladder gasification and dysfunction, the patient presented with diarrhea. Liver belongs to Yang in Yin. Ququan Point is the junction of Qi and Blood of Jueyin Liver Channel of Foot. Acupuncture at Ququan can stimulate liver qi and achieve the effect of promoting qi, activating blood circulation and dredging collaterals. The needle point points to the oligoabdomen and guides the gathering of the air machine and oligoabdomen. Ren Meridian belongs to Yin Meridian, and Shenque Point, also known as Qishe, is the gathering place of congenital and acquired Qi. In this study, Shenque acupoint was pricked downward percutaneously through Zhongji acupoint, without the risk of visceral injury caused by direct pricking. Relative needle tips, the selection of acupoints and meridians Yin-Yang relative, triggering the air machine a liter and a fall relative. So the name is "Relative Needle Tip Prick ".

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In this study, percutaneous penetration of awn needle was used to stimulate the maximum essence of the meridian under the minimum number of needles. Choose percutaneous penetration needling to avoid direct needling of the bladder affecting detrusor contraction can cause immediate urinary symptoms, and can not complete the treatment of urinary incontinence. There are still some deficiencies in this study, such as lack of follow-up survey after treatment. The author will conduct in-depth research on relevant issues, explore the clinical efficacy, worthy of popularization of the characteristics of clinical experience.

References: 1. Yao Wenping, Li Ming, Ruan Qiang, et al. 15 cases of urinary retention after cervical cancer operation were treated by scalp acupuncture combined with warm needling [J]. Chinese Acupuncture and Moxibustion, 2016, 36 (2): 145-146.

Treatment of precocious puberty with traditional Chinese medicine combined with vulva fumigation and washing prescription

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[Abstract] Objective: To observe the therapeutic effect of traditional Chinese medicine combined with vulvar fumigation and washing prescription on precocious puberty due to spleen deficiency and liver depression combined with Damp-heat injection. Methods: 50 cases of precocious puberty were randomly divided into experimental group and control group, 25 cases in each group. The control group was treated with modified Cangfu Daotan Decoction, while the experimental group was treated with modified Cangfu Daotan Decoction combined with vulva fumigation and washing recipe. The therapeutic effect of the two groups were compared. Result: The clinical curative effect of the experimental group was similar to that of the control group (p > 0.05); the clinical symptom score, clinical symptoms (breast pain, vaginal secretion, acne) relief onset time of the experimental group was significantly better than that of the control group (p < 0.05). Conclusion: Traditional Chinese medicine combined with vulva fumigation and washing prescription has advantages in improving clinical symptoms and onset time.

Keywords: traditional Chinese medicine; vulvar fumigation and washing; precocious puberty

Precocious puberty is an endocrine disorder with abnormal secondary sexual development in children. It not only affects the normal sexual development of women and reproductive health of adults, but also may have a negative impact on their mental health [1]. Professor Yang Lizhen has many years of clinical experience in the treatment of precocious puberty in children. Dialectical treatment of traditional Chinese medicine can effectively treat precocious puberty, but oral decoction alone has a long course of treatment, which makes it difficult for children to adhere to for a long time. External treatment of traditional Chinese medicine has the advantages of convenient administration, easy operation and acceptance. In this study, on the basis of oral Chinese herbal decoction combined with fumigation and washing of vulva, internal treatment combined with external treatment can not only regulate the balance of Yin and Yang, but also aim at local lesions. It has advantages in improving the clinical symptoms of children with sexual precocity.

Objective:
To observe the therapeutic effect of traditional Chinese medicine combined with vulvar fumigation and washing prescription on precocious puberty due to spleen deficiency and liver depression combined with Damp-heat injection.

Materials and methods:
From May 2018 to May 2019, 50 cases of precocious puberty in pediatrics of our hospital were selected, which met the diagnostic criteria of idiopathic central precocious puberty drawn up in the
Consensus on Diagnosis and Treatment of Central Precocious Puberty, and the syndrome of spleen deficiency, liver depression and damp-heat downward injection in TCM. The clinical manifestations are obesity, acne on the face, thick taste, bitter throat, irritability, restless sleep, breast pain, yellow and sticky, premature menstruation, sticky stool, yellow and red urine, red tongue, yellow and greasy tongue coating, pulse string number[2]. The age of the children ranged from 6 to 10 years, with an average age of 8.68 years and a course of 4 to 16 months.

The experimental group was treated with Cangfu Daotan Decoction combined with vulva fumigation and washing. Addition and subtraction of Cangfu Daotan Decoction: Atractyloides lanceolata 15 g, Xiangfu 15 g, tangerine peel 15 g, Pinellia ternata 10 g, Poria cocos 10 g, Prunella vulgaris 10 g, Fritillaria thunbergii 10 g, litchi seed 10 g, Scutellaria baicalensis 10 g, Bupleurum 10 g, Paeonia lactiflora 15 g, raw oyster 20 G. One dose a day, 200 mL decoction, 30 minutes after breakfast and dinner. Vulvar Fumigation and Washing Prescription: Atractyloides Atractyloides 20 g, Cortex Phellodendri 20 g, Gentianae 20 g, Toona bark 15 g, Sophora flavescens 15 g, Herba Agrimoniae 15 g. After decocting, when the temperature is suitable, first fumigate the vulva for 20-30 minutes, then use water to wash the vulva, once every 2 days, once a day, after the general condition is alleviated, change to one dose every 3 days to consolidate the curative effect.

The control group was given Cangfu Daotan Decoction orally. The therapeutic effect was evaluated after 3 months of treatment.

The evaluation of curative effect refers to the Criteria for Diagnosis and Therapeutic Effect of Diseases and Syndromes of Traditional Chinese Medicine [3]. Clinical recovery: breast shrinkage to pre-puberty; vaginal secretions and vaginal bleeding disappeared; bone age growth was lower than that of height growth; uterine ovarian morphology and sex hormone levels were restored to pre-puberty state; TCM syndrome score was reduced more than 95%; significant effect: breast shrinkage; vaginal secretions and vaginal bleeding were obvious. Reduction: Bone age growth is similar to height growth; Uterine ovaries are significantly reduced, sex hormone levels are significantly reduced; TCM syndrome scores are reduced by more than 70%, less than 95%; Effective: breast shrinkage; Vaginal secretions and vaginal bleeding are reduced; Bone age growth is higher than height growth; Uterine ovaries are reduced, sex hormone levels are lower. The scores of TCM syndromes decreased by more than 30%, <70%. Invalidity: no significant changes in breast and vulva, or even aggravation; no improvement in bone age, uterus, ovary, sex hormone levels and other indicators; TCM syndromes decreased by less than 30%.

Statistical methods SPSS 17.0 statistical software package was used for data processing in this study. The counting data were tested by $\chi^2$ test, rank sum test. If the data obeyed the orthodox distribution, the t test was used, and the non-parametric test was used for those who did not obey. P < 0.05 was statistically significant.

Results and discussion:

Compared with the control group, the clinical effect of the experimental group was similar (P > 0.05). Compared with the total score of clinical symptoms before and after treatment, the improvement of clinical symptoms of precocious puberty in the experimental group was better than that in the control group (P < 0.05). Compared with the control group, there was no significant difference in the onset time of relieving clinical symptoms between the experimental group and the control group (P > 0.05); the onset time of relieving breast pain, vaginal secretions and acne in the experimental group was better than that in the control group (P < 0.05).

TCM believes that the pathogenesis of precocious puberty is the excessive or declining Yin and Yang of the body leading to the germination of Tiancheng[4]. The physiological characteristics of juvenile Yin and juvenile Yang lead to the unbalance of Yin and Yang in children. Among them, children with deficiency of spleen and stagnation of liver are prone to unbalance of Yin and Yang due to spleen dysfunction, soil anti-insult, liver failure, depression and fire. Liver fire inflammation, then see irritability; Liver fire along the meridian, phlegm and drinking water wet agglomeration, visible breast swelling pain, breast nucleus enlargement; Damp heat flow, lower Jiao Ren band damage, visible with viscous, quantity of multi-color yellow; Damp heat fumigation skin, hair acne; floating blood, leading to "Tiangu" early arrival. Based on the decoction of invigorating spleen and
soothing liver, reducing fire and dispersing knots, and adding and subtracting Cangfu Daotan Decoction, this study cooperated with the fumigation and washing prescription of vulva, among which Atractylodes Rhizoma Atractylodis, Cortex Phellodendri, Sophora flavescens, Gentian Herba Gentianaceae, Toona bark and Herba Sinensis were used to remove astringency and stop bleeding. With internal and external treatment, restore the function of liver dredging, kidney essence can be sealed, body Qi, blood, Yin and Yang can be balanced, effectively inhibit the early development of secondary sexual characteristics.

References:

Changes of Cardiac Structure and TCM Syndromes in Menopausal Patients with Coronary Heart Disease

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Abstract Objects Researched the cardiac structural changes and the syndrome of TCM of postmenopausal women in patients with stable angina pectoris. Methods Collected female patients with stable angina pectoris, including 45 postmenopausal women and 38 non- postmenopausal women. Recorded the age, sex, syndrome of TCM, left atrium (LA) and IVS, and then compared in groups. Results The postmenopausal patients with LA size significantly increased (P<0.05), IVS thickness on the distribution of TCM syndrome types are significantly different (P<0.05) on the distribution of TCM syndrome types. Two groups of patients had different constitution of TCM syndrome types. Conclusion Menopause will cause changes in the size of LA in women. The main syndrome of TCM of stable angina pectoris is syndrome of deficiency of both qi and yin. Keywords Coronary atherosclerotic heart disease, left atrium, treatment based on syndrome differentiation, interventricular septum.

Stable angina pectoris is a disease because of a fixity stenosis in coronary blood vessels, causing an imbalance between oxygen demand and oxygen consumption in myocardial cells. Postmenopausal women are exposed to decreased estrogen (E₂) as a result of decreased ovarian function, resulting in changes in their internal environment. In traditional Chinese medicine, coronary atherosclerotic heart disease is included in chest discomfort or heart pain. To explore the effect of menopause, we compared the size of TCM syndromes and the LA for patients.

1 Object and methods

1.1 Object of study Subjects from January 2019 to April 2019, a total of 83 female patients, aged 42-77 years, were diagnosed with coronary stable angina pectoris. According to whether menopause or not, the patients were divided into the postmenopausal group (45 cases) and the non-postmenopausal group (38 cases).

1.2 Standard of TCM Syndrome According to the classification of coronary heart disease and angina pectoris according to the Guiding Principles for Clinical Research of New Chinese Medicine
(2002 edition), patients are divided into 8 syndrome types including syndrome of deficiency of both qi and yin and so on.

1.3 Inclusion standard and exclusion standard Patients had typical ECG changes and nitroglycerin was effective, patients with stable angina pectoris of coronary heart disease or with coronary artery examination results; the information is complete. Patients are excluded who with rheumatic heart disease, dilated cardiomyopathy, congenital heart disease, essential hypertension, secondary hypertension, heart failure, infectious diseases, hepatic failure, acute and chronic renal insufficiency diabetes, diabetes mellitus, cancer, autoimmune disease and patients who have used hormones and lipid-lowering drugs in the past 3 months.

1.4 Statistical methods SPSS 22.0 software was used for analysis. Application representation of data measurement data between groups; T-test was used for comparison between groups, and anova was used for comparison between groups. Frequency and percentage representation of counting data; P<0.05 was considered to have significant statistical significance.

2 Results

2.1 Change of LA size and ventricular LA increased significantly in postmenopausal patients, with significant difference (P<0.05). Septal in univariate group, IVS showed significant differences in TCM syndromes (P<0.05).

2.2 Distribution of TCM syndromes In two group, but both of them are mainly characterized by syndrome of deficiency of both qi and yin. The pathological mechanism was mainly deficiency, and ‘blood stasis’ and ‘phlegm turbidity’ were involved. The order of the distribution of TCM syndromes in non-postmenopausal group were syndrome of deficiency of both qi and yin (31.6%), syndrome of yin deficiency of heart and kidney (21.1%), syndrome of blood stasis due to qi deficiency (21.1%), syndrome of phlegm blocking heart vessel (15.8%), syndrome of stagnant blockade of heart blood (5.3%), and syndrome of stagnation of qi and blood stasis (5.3%). Postmenopausal patients with TCM syndrome type distribution of syndrome of deficiency of both qi and yin (28.9%), syndrome of blood stasis due to qi deficiency (17.8%), syndrome of phlegm blocking heart vessel (17.8%), and syndrome of qi stagnation and blood stasis (11.1%), syndrome of yang qi exhaustion (8.9%), syndrome of yin deficiency of heart and kidney (6.7%), syndrome of blockade due to heart blood stasis (4.4%), syndrome of yin cold congelation and stagnation(4.4%).

3 Discuss When myocardial ischemia occurs, myocardial cell metabolism changes[i]. The increase of LA is a reliable and independent predictor of cardiovascular events[ii]. It has been confirmed in animal experiments that supplementation with hormones in E2 deficient mice leads to decreased atrial natriuretic peptide (ANP) and NF-kB[iii]. The decrease of ANP after hormone supplementation reflects the change of LA. The decrease of NF-kB also indicates that E2 is involved in inhibiting changes in heart structure. The results of this study can indirectly prove that changes in postmenopausal hormones lead to the enlargement of LA, which is consistent with our results. Left ventricular remodeling is closely related to the prognosis of patients with coronary heart disease. Lin Kan[iv] found in the study that with the increase of coronary artery stenosis, the degree of left ventricular remodeling became more and more obvious, and patients with syndrome of yang qi exhaustion had increased IVS. By comparing the univariate groups, IVS was found to be correlated with TCM syndrome types, and the IVS of syndrome of yang qi exhaustion was the highest. In other words, syndrome of yang qi exhaustion is more likely to cause ventricular remodeling than other syndromes. The heart is the yang of the yang, which can warm and promote the blood in the pulse. When yang qi insufficiency occurs, the heart will lose its function and manifested as decreased ejection fraction of the heart, leading compensatory thickening of IVS. Due to the insufficiency of kidney essence, yang deficiency occurs, which makes body loose warming and protection, leading to the occurrence of syndrome of yin cold congelation and stagnation and the syndrome of yang qi exhaustion. Huangdi Neijing mention: When 35 years old, Yang Ming meridian, qi and blood gradually weak, ·····, tian kui is exhausted, so body lost fertility. Zhang zhongjing proposed that the cause of "chest discomfort" is Yang wei yin xian, which means that the deficiency of yang qi in the upper jiao, the inner prosperity of yin cold in the lower jiao, yin taking the yang position and blocking the chest yang. We can infer the causes of illness: early Yang Ming
meridian failure, leading the lack of producing qi and blood, then heart failure, yin attack on the upper jiao. Late kidney deficiency, yin essence shortage, yin and yang mutual elimination, heart yang deficiency, eventually it leads to disease. Among all the patients investigated, syndrome of deficiency of both qi and yin accounted for the majority, and the main pathological factors were ‘turbid phlegm’ and ‘blood stasis’. This result is consistent with the physiological changes of postmenopausal women. The operation of body fluid in the human body depends on the promotion of qi, qi deficiency without the operation of body fluid, wet accumulation into phlegm, leading phlegm turbid produced. ‘Qi is the general of blood, blood is the mother of qi’, qi can produce or promote or retain blood, when blood stasis, it well lead the production of pathological products.

In summary, there were significant changes in cardiac structure in postmenopausal women. In the future research, a broader investigation should be carried out to reach a general conclusion and provide health guidance for patients of all ages.

References


A preliminary study on the effect of acupuncture on autophagy in cerebral ischemia-reperfusion injury

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Abstract

Cerebral ischemia reperfusion injury (CIRI) is a common pathological process after recanalization of acute cerebral infarction. After CIRI, it will trigger a series of damage cascades, which will eventually lead to a large number of nerve cell damage or death. Autophagy, as a newly discovered mode of programmed cell death, is of great significance for the "survival" and "destruction" of nerve cells after cerebral ischemia and reperfusion. On the one hand, moderate autophagy can help cells clear damaged organelles and abnormally folded proteins, promote autologous repair, and thus protect nerve cell damage; on the other hand, excessive autophagy interacts with apoptotic signals to induce autophagy Sexual cell death, promote the occurrence and development of apoptosis, thereby aggravating nerve cell damage. More and more studies have shown that acupuncture has a benign regulation of autophagy induced by CIRI. This article reviews the related literature on the effects of acupuncture on CIRI-induced neuronal autophagy, in order to provide a new scientific basis for clinical application of acupuncture for prevention and treatment of CIRI.

Key words: Cerebral ischemia reperfusion injury, Autophagy, Acupuncture.

Autophagy[2], also known as "self-digestion" of cells, is a dynamic biological process that is precisely regulated by autophagy-related proteins. Autophagy has a fairly complex molecular
regulation mechanism, in which Atg6 (Beclin1), Atg8 (LC3) and P62 proteins are essential for autophagy[3]. LC3-II is considered to be a marker of autophagosome formation. The number of LC3-II or the ratio of LC3-II/I is directly proportional to the number of autophagosomes, and to some extent reflects the activity of autophagy[4]. Beclin-1 regulates autophagy precursor and autophagosome formation[5]. Interference with Beclin-1 expression reduces cerebral ischemia-induced autophagy activation[6]. P62 protein is a scaffold protein, which is a specific substrate for autophagy, coupled to LC3, and completes protein degradation[7] by autophagosome and lysosome. The level of P62 protein and autophagy is negative in vivo. Related.

In recent years, a large number of in vitro or in vivo experiments have demonstrated that autophagy is involved in the pathological process of cerebral ischemia-reperfusion injury and affects the survival and death of nerve cells. Sheng et al[8] test showed that autophagy has protective effects on nerve cells of ischemic brain injury. However, some experiments have shown that excessive autophagy can induce nerve cell death. CHEN et al[9] found that autophagy not only prevents cell death but also regulates cell death under specific circumstances. If autophagy destroys cytoplasm or organelle exceeds a certain threshold, autophagic cell death occurs.

In recent years, with the deepening of autophagy research, a large number of experimental studies have also shown that[10-11], acupuncture has a certain regulatory effect on CIRI-induced neuronal autophagy. Ting Z[12] and other proven that electroacupuncture intervention can not only reduce the oxidative and inflammatory damage caused by cerebral ischemia, but also improve CIRI by inhibiting excessive autophagy of neurons. He Jian[13] et al. indicated that electroacupuncture may protect neurons by inhibiting hyperactivated autophagy through the mTORC1-ULK complex-Beclin1 pathway.

Objective
To reviews the related literatures on the effects of acupuncture on CIRI-induced neuronal autophagy, in order to provide a new scientific basis for clinical application of acupuncture for prevention and treatment of CIRI.

Materials and methods
Autophagy, the basic processes include induction, membrane formation and elongation, autophagosome formation and maturation. With lysosomal fusion, autophagic lysosomal degradation and small molecule recycling, this process plays a key role in cell waste removal and structural reconstruction. Acupuncture has a certain regulatory effect on CIRI-induced neuronal autophagy.

Results and discussion
According to the review, the study of acupuncture on autophagy of nerve cells after ciri has just started. Although we have conducted a comprehensive search of domestic and foreign literatures, the total number of articles on this aspect is relatively small. Acupoint selection and acupuncture interventions. The lack of repeated tests, I believe that with the strict regulation of cell autophagy after acupuncture regulation of ciri and more subtle systematic research, the regulation mechanism of acupuncture on nerve cells after ciri will be more clear, thus is ischemic stroke and The breakthrough in the prevention and treatment of cerebral ischemia-reperfusion injury has laid a solid foundation.

References:
Clinical application of integrated traditional Chinese and Western medicine in the treatment of threatened abortion

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Abstract: Threatened abortion is a common pregnancy complication in the clinic. With the opening of the second child policy, people's fertility requirements are becoming more intense, but the incidence of threatened abortion is also increasing. Western medicine often treats patients with luteal dysfunction with progesterone intramuscular injection, and dydrogesterone has been widely used in early pregnancy in recent years. This disease belongs to the unique advantage of traditional Chinese medicine. It can be added or subtracted from traditional Chinese medicine decoction, and it can be used in combination with abortion and acupuncture. It can assist acupuncture treatment if necessary. Integrating the above two treatment options with Chinese and Western medicine can not only reduce the incidence of threatened abortion, but also improve the patient's anxiety and relieve tension.

Keywords: Threatened abortion, abortion stickers, Chinese medicine treatment, Western medicine treatment, integrated Chinese and Western medicine

Threatened abortion refers to 28 weeks of gestation, a small amount of vaginal bleeding, no pregnancy discharge, accompanied by mild lower abdominal pain and backache. Traditional Chinese
medicine belongs to the category of “fetal dysphoria”, and most patients are kidney deficiency type. The current incidence is about 20%, and about 50% of patients eventually have a miscarriage [1].

1. Western medicine treatment materials and methods

The occurrence of threatened abortion is closely related to chromosome, gene, hormone levels, immune factors, maternal factors, and environment. Studies have reported on the outcome of pregnancy for biomarkers. The results suggest that estradiol, progesterone, and β-HCG levels play an important role in maintaining early pregnancy. The concentration is expected to prevent threatened abortion and reduce ovarian and corpus luteum insufficiency. The abortion has important clinical value [2]. Therefore, increasing progesterone level is the key to the treatment of threatened abortion [3]. Although progesterone is a commonly used drug in clinical practice, it can only be used in patients with luteal insufficiency. There are no clear reports on threatened abortion caused by other causes. Dydrogesterone is a natural progesterone extracted from potato plants. It has been reported in foreign countries that the rate of continued pregnancy or gestational success rate of dydrogesterone in the treatment of threatened abortion is 82.5% to 87.5% [4].

2. Chinese medicine treatment materials and methods

2.1 Chinese medicine decoction

TCM syndromes divide threatened abortion into five syndrome types: kidney deficiency syndrome, blood heat syndrome, qi and blood deficiency syndrome, blood stasis syndrome and liver stagnation syndrome. Most doctors in the past thought that the main cause was kidney deficiency, and the selection of the prescriptions was based on the Shoutai Pills: Dutongtan 10g, Wuweiizi 10g, Sangshen 10g, Suanzaoren 10g, Shudi 10g, Shenqu 10g, Nvzhenni 20g, Sharen 10g, Baishao 20g, Tusizi 15g, Danshen 10g, Shanyao 20g, Maidong 15g, Xuduan 10g, 1 bag of ejiao. Rational prescription analysis: TSZ, FPZ, SS, NZZ tonifying kidneys; DS is good for gas and fortune; SR, SY, SQ strengthen the spleen and replenish qi; SD, MD, WWZ nourish Yin and nourish kidney; GQZ, BS sour and nourishing yin; EJ nourishing the fetus; SZR peace of mind; DZT Strengthening yin and stopping bleeding. A meta-analysis [5] showed that the treatment of threatened abortion with Shoutai Pill can increase serum β-HCG, progesterone and estradiol levels, and its efficacy is better than Western medicine alone.

2.2 Tire stickers

Oral decoction at the same time with the abortion paste acupuncture points Shenshu, Shenque, Guan Yuan treatment, once every 4 hours. Shenshu is the place where the kidney is infused. It is responsible for the distribution of yang in the whole body. The gods are in the main part of the operation of the fetus. The Guanyuan is where the vitality is hidden. Applying three points can treat less abdominal pain, strengthen kidney and relieve low back pain.

2.3 Integrated Chinese and Western Medicine Treatment

The treatment options of Chinese medicine and Western medicine have their own advantages and disadvantages. Common treatment plan: before 12 weeks of gestation, progesterone 20mg once a day intramuscular injection, dydrogesterone 1 tablet 3 times a day, Angeline 2 vaginal administration, 12 weeks later, Western medicine gradually reduced until the suspension, Bao Chinese medicine decoction can be used throughout the treatment of fetuses.

3. Results and conclusions

In summary, improper treatment of threatened abortion can lead to poor delivery outcomes. Both Chinese and Western medicine have treatments for such diseases. According to the actual symptoms of patients and TCM syndromes, the combination of traditional Chinese and Western medicine has important clinical significance.
Meta-analysis of traditional Chinese medicine hot ironing therapy for prevention and treatment of postoperative urinary retention in mixed hemorrhoids

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Abstract

As a unique and effective external treatment method of traditional Chinese medicine, traditional Chinese medicine hot ironing method has been widely used because of its simple operation, low price, strong practicability and so on. This study comprehensively collected the existing clinical research literature on the efficacy of traditional Chinese medicine hot ironing on postoperative urinary retention in mixed hemorrhoids, and used evidence-based medicine to objectively evaluate the effectiveness and safety of traditional Chinese medicine hot ironing therapy in preventing and treating postoperative urinary retention in mixed hemorrhoids. In order to provide a scientific and effective reference for clinical care.

Keywords: Traditional Chinese medicine hot ironing therapy; Mixed hemorrhoids; Urinary retention

In recent years, due to the continuous improvement of living standards and changes in dietary structure, anorectal diseases have become an increasing trend year by year. Mixed hemorrhoids account for 65.9% of all anorectal diseases [1]. For moderate and severe mixed hemorrhoids, surgery is the first choice of treatment. However, postoperative dysuria or even urinary retention due to anesthesia, surgical stimulation, anal tamponade, body position and psychological factors. A study[2] showed that the incidence of urinary retention after operation of mixed hemorrhoids is 20%-52%. Traditional Chinese medicine believes that urinary retention belongs to the category of "closed" in traditional Chinese medicine, which is located in the bladder, mainly due to the damage of qi, blood meridians and collaterals after operation, obstruction of waterway operation, loss of bladder gasification[3]. The hot ironing therapy of traditional Chinese medicine is an innovation and extension of moxibustion. After heating traditional Chinese medicine and crude salt, it moves or rotates back and forth at Shu points in the abdomen of the human body(for example, Shenque, Qihai, Guanyuan, Zhongji, etc.). Combining the effects of drugs, heat energy and acupoints, make the medicine through the body surface Ying Wei slowly infiltrate the whole body meridians, qi and blood, play the purpose of dredging meridians and collaterals, promoting blood and circulation qi, promoting urination as the purpose of a method of external treatment of traditional Chinese medicine.

Objective

To systematically evaluate the efficacy and safety of traditional Chinese medicine thermal ironing therapy in the prevention and treatment of urinary retention after operation of mixed hemorrhoids, so as to provide scientific and effective reference for clinic.

Materials and methods

Computer search of China Knowledge Network, China Biomedical Literature Database, Wanfang Database, VIP Database, PubMed, Embase, Cochrane from the establishment of the database to the randomized controlled trial of traditional Chinese medicine hot ironing therapy for postoperative urinary retention in mixed hemorrhoids, by inclusion and exclusion criteria to select the literature, use the evaluator's manual provided by the Cochrane Collaboration 5.1.0 bias risk assessment tool to conduct quality evaluation and risk assessment of the literature [4], and use RevMan5.3 software for data statistics and analysis.

Results and Conclusion

A total of 15 articles were included in this study, including 2304 patients with postoperative urinary retention of mixed hemorrhoids. The results of Meta analysis: the results of the first voiding time analysis showed [MD=-1.21,95%CI (-1.35, 1.07)], and the analysis of the incidence of urinary
retention showed [RR=0.37,95%CI (0.28, 0.47)]. The results of catheterization rate analysis showed [RR=0.30,95%CI (0.17, 0.53)], and the results of clinical total effective rate analysis showed [RR=1.31,95%CI (1.25, 1.38)]. The outcome indicators have extremely significant statistical significance(all p<0.001). Safety evaluation: None of the 15 articles included in the study reported adverse reactions during the observation. The existing research results prove that the clinical application of traditional Chinese medicine ironing therapy is safe and effective, the patient has good acceptability, high satisfaction and simple to easy.

Discussion

1. Hot ironing therapy of traditional Chinese medicine can effectively reduce the incidence of urinary retention after operation of mixed hemorrhoids

At present, the main methods of clinical prevention and treatment of postoperative urinary retention of mixed hemorrhoids are listening to the sound of running water, massage hot compress bladder area and other routine nursing, if necessary, catheterization. However, catheterization is easy to increase the risk of urethral mucosa injury, urinary tract infection and secondary urinary retention, which not only brings great psychological pressure to patients, but also increases the medical economic burden, resulting in low satisfaction and poor compliance. Hot ironing of traditional Chinese medicine combines physiotherapy with drug action, with the help of thermal action to carry drugs into the body, relax the sphincter of anal spasm in patients, reduce its pulling effect on the sphincter of urethra, relieve pain and tension in order to achieve the purpose of urination. The results of Meta analysis showed that compared with routine nursing and basic treatment, traditional Chinese medicine hot ironing could more effectively alleviate the occurrence of urinary retention, reduce the catheterization rate, shorten the first urination time and improve the total clinical efficiency.

2. Chinese medicine hot ironing mechanism

The hot ironing of traditional Chinese medicine is to produce approximate infrared heat with high penetrating force. When the heat is absorbed by the human body through the corresponding acupoints, it can make the blood vessels near the corresponding acupoints dilate and increase the blood circulation. At the same time, with abdominal massage with its heat and acupoint stimulation, permeate the skin layer, through the conduction of meridians, play the role of soothing muscles and promoting blood circulation, detumescence and pain to achieve the role of dredging and urination.

In a word, the results of the study prove that hot ironing therapy of traditional Chinese medicine has a definite effect on urinary retention after operation of mixed hemorrhoids, and the operation method is simple and easy, which can alleviate the pain of patients and reduce the medical economic burden at the same time, and more from the point of view of prevention. It better embodies the idea of "Cure without disease" in traditional Chinese medicine, and is worth popularizing and using in clinic.

References:

Clinical Observation on Treatment of Coronary Heart Disease with Angina Pectoris and Insomnia by Auricular Acupoint Seed Pressing

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Abstract

The observation aims to observe the clinical efficacy of auricular acupoint pressing for the treatment of coronary heart disease complicated with insomnia. 76 patients who met the inclusion criteria were divided into the control group and the treatment group according to the random number table method. The control group was treated with western medicine for coronary heart disease. The treatment group increased the auricular point seed on the basis of the control group. The treatment time was 14 days, observe the Seattle Angina Scale (SAQ), PSQI score. The scores of SAQ scores in the treatment group were higher than those in the control group. The scores of the PSQI score group were lower than those in the control group (P<0.05). It is suggested that the treatment of auricular acupoints to improve sleep quality and angina has a good effect. Auricular acupoints combined with basic drugs in the treatment of coronary heart disease with angina pectoris and insomnia patients with clinical efficacy, no dependence, no side effects, clinically worthy of widespread promotion.

Key words: auricular point pressure seed; coronary heart disease stable angina pectoris; insomnia; clinical observation

Coronary heart disease angina pectoris refers to a group of clinical syndromes with coronary atherosclerosis as the main pathological change due to stenosis and myocardial ischemia with chest pain and chest tightness as the main clinical manifestations[1]. Insomnia refers to a subjective experience that affects the social function of the daytime due to sleep quality and/or sleep maintenance difficulties caused by poor quality or time of normal physiological needs[2]. The 2005 survey showed that 45.4% of the population in China had been affected by insomnia in the past month[3], and Rita LaReau et al.[4] found that the incidence of insomnia in coronary heart disease was the highest (42.4%) compared with other diseases. Patients with coronary heart disease often suffer from palpitations and pre-cardiac discomfort due to myocardial ischemia and hypoxia, which may cause excessive psychological burden and insomnia[5]; and insomnia may cause excessive sympathetic stimulation, blood supply to brain and other tissues. Increased oxygen, decreased coronary blood flow, thereby aggravating myocardial ischemia and hypoxia, has become one of the risk factors for coronary heart disease[6-7]. The interaction between the two, adding to each other, formed a heart attack and anxiety caused by insomnia, and insomnia further aggravated the vicious circle of the original condition. At present, the treatment of insomnia mainly includes stable hypnotic drugs, psychological counseling and traditional Chinese medicine decoction[8], in which psychological counseling is not mature in China, Chinese medicine decoction is difficult to take, and hypnotic drugs are easy to rely on, so we need to further explore auricular points.

Objective

To further explore the non-medical treatment of auricular acupoints, and further study its clinical feasibility and safety, and provide a basis for clinical treatment of coronary heart disease with angina pectoris and insomnia.

Materials and methods

1. Using random number table method, divide 38 cases in the control group and the other 38 cases in the treatment group. Control group patients were treated with conventional coronary heart disease (aspirin 100mg, Lipitor 20mg), orally every night before going to bed. The treatment group used in the treatment group was based on the control group plus the auricular point pressure seed. Choose the main points: subcortical, sympathetic, Shenmen, blood pressure points, with points: heart, liver, spleen, kidney. The undergraduate nurse first disinfected the auricle with 75% alcohol, used the probe to find the positive point (sensitive point), one hand held the back of the auricle, and
the other hand used a hemostatic forceps to oxidize the medical material with the king without the seed. Zinc tape (0.5 cm × 0.5 cm) is attached to the selected acupuncture points. Place the index finger and thumb on the front and back of the auricle. Press gently for 1 to 2 minutes to generate heat and swell in the auricle. The method is the same. After three meals and before going to bed, each time you press at least five minutes, the ear acupuncture points are changed every other day, and 14 days is a course of treatment.

2. Efficacy criteria (1) The PSQI scale is used to assess the patient's sleep quality [9].(2) The Seattle Angina Scale (SAQ) is used to assess the symptoms of angina [10].

Results and discussion

Before and after treatment, the scores of PSQI scale of the two groups were significantly lower than those before treatment (P < 0.05). The score of PSQI scale of the treatment group was significantly lower than that of the control group after treatment (P < 0.01). After the intervention, the Seattle angina scale (SAQ) score was significantly lower in the treatment group than in the control group, and the difference was statistically significant (P < 0.01).

Theory of "The Sutra and Linglan Secrets" puts forward the theory of "the heart, the official of the monarch, and the deity of the gods", which means that the heart is the god or the main mind, the god is stunned, the god is uneasy, but the sleep is the heart.

Patients with coronary heart disease and insomnia are widely present in the clinic. Both traditional Chinese medicine theory and modern research can prove that insomnia has a close relationship with coronary heart disease and affect each other [11]. Shenmen points can calm and calm the nerves, and increase the blood flow velocity of the bilateral vertebral basilar artery; the sympathetic points can regulate vasomotor and coordinate the excitation and inhibition of the cerebral cortex; the heart points have the effect of calming the nerves and clearing the heart; The caves are rich in marrow, Ningxin and Shenshen [12], and all the points are used together to play the role of raising the heart and soothe the nerves. Treating coronary heart disease with insomnia with auricular acupoints, grasping the overall concept and the treatment principle of syndrome differentiation and treatment, has a good clinical effect, and has the irreplaceable advantages of sedative and hypnotic drugs, which deserves further study.

References:
Clinical observation of Recumbent traction therapy for Cervical spondylosis of Physiological Curvature Change

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Abstract
With the popularity of computers and mobile phones, people's lifestyles have undergone tremendous changes, especially the bad habit of long-term bowing their heads. It also leads to cervical physiologic curvature becoming straightenscervical, and even becoming reversed, leading to the occurrence of cervical spondylosis. Cervical spondylosis is becoming more and more popular in the crowd. The academic community has also received more attention for its research. The clinical manifestations of cervical spondylosis with changes in cervical curvature are various. The main symptoms are that the neck is stiff and discomfort and the arms are painful and numb. Various symptoms can appear individually or simultaneously. Trapped traction is a common method for treating cervical spondylosis in the clinic. The treatment method has the characteristics of easy operation, quick effect, low risk coefficient, it achieves therapeutic goals by improving the balance of cervical hydrostatic force, correcting joint dislocation, and improving blood circulation.

Key words: Recumbent traction, Physiological Curvature Change, Cervical spondylosis, Clinical observation

Objective
Objective comment for the clinical treatment effect of Recumbent traction therapy to the Cervical spondylosis of Physiological Curvature Change from the perspective of evidence-based medicine.

Results
Recumbent traction can improve the clinical symptoms of most cervical spondylosis patients with Cervical spondylosis of Physiological Curvature Change obviously and quickly.

Discussion
Recumbent traction through improving the balance of cervical hydrostatic force, correcting joint dislocation, and improving blood circulation to achieve therapeutic purposes, and it has the advantages of easy to accept and no side effects. It deserves to be clinically promoted.

References:
Clinical Observation on 38 Cases of Infantile Enuresis of Spleen and Kidney Deficiency Treated with Mulberry

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Abstract: Objective: To observe the clinical efficacy of mulberry stagnation in treating pediatric enuresis of spleen and kidney deficiency, and provide clinical evidence for its promotion and application. Methods: 76 children with enuresis were randomly divided into treatment group and control group, 38 cases were treated with basic treatment. First, avoid spicy and cold products, then practice urinary urination, control drinking water before going to bed, and conduct psychological counseling. The treatment group was treated with mulberry stagnation and stagnation, and treated with Chinese medicine Chengquan Pill, 7d for 1 course, and 3 courses for clinical observation. Results: The total effective rate was 88.56% in the treatment group and 76.70% in the control group. The number of enuresis, the depth of sleep and the accompanying symptom scores after treatment were lower in the treatment group than in the control group, and the difference was statistically significant (P<0.05). Conclusion: The effect of mulberry stagnation on the treatment of children with enuresis (spleen and kidney deficiency type) is more significant than that of the Chinese medicine Chengquan Pill.

Key words: pediatric enuresis; mulberry stagnation; spleen and kidney deficiency; acupoint application.

Infantile enuresis, also known as enuresis and bedwetting, refers to the elimination of organic lesions in children over 5 years of age. It is often caused by urinating in a dream, and a symptom of waking back, once in a few nights, and often several times a night. According to the characteristics of the enuresis and syndrome differentiation of the children's enuresis, as well as the physiological specificity of the children, the use of mulberry stagnation to treat the spleen and kidney deficiency type of children with enuresis has achieved good clinical results.

1 Clinical data

1.1 General Information 76 children with enuresis from May 1st, 2018 to May 2019 from the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine were randomly divided into treatment group (38 cases) and control group (38 cases). There were no significant differences in age, duration of disease, number of enuresis, depth of sleep, and accompanying symptom scores (P>0.05).

1.2 Diagnostic criteria (1) Diagnostic criteria for Chinese medicine. Refer to "Traditional Pediatric Clinical Diagnosis and Treatment Guidelines for Children Enuresis (Revised Edition)" Diagnostic Criteria. Children should have deeper sleep, should not wake up, urinate in the sputum, and have enuresis at least 2 times a week for more than 3 months; urine routine Most of the urinary bacterial cultures were normal; (2) Western diagnostic criteria. According to the American Diagnostic and Statistical Manual of Mental Disorders, the fifth edition of the diagnostic criteria for children's nocturnal enuresis: children aged 5 years, at least 2 times a week involuntarily urinating for more than 3 months.

1.3 TCM Syndrome Standards Refer to the Clinical Classification of Enuresis in Children's Enuresis (Revised Edition) of Pediatric Clinical Diagnosis and Treatment Guidelines. The dialectical criteria for enuresis of spleen and kidney deficiency are as follows. Main symptoms: enuresis in bed, not
easy to wake up, long urine. Secondary symptoms: increased frequency of urination, fatigue, yellow complexion, and irregular stool.

1.4 Inclusion criteria (1) In line with the diagnostic criteria of Chinese and Western medicine, TCM syndrome differentiation is the syndrome of spleen and kidney deficiency; (2) Age is 5 to 14 years old; (3) There is no abnormality in biochemical and hematuria routine examination indicators. (4) Parents and children with informed consent, voluntarily join this clinical observation, and accept returning visitors.

1.5 exclusion criteria (1) exclude children with liver and kidney dysfunction, urinary tract infection, invisible spina bifida, diabetes insipidus; exclude enuresis caused by it; (2) age <5 years old or > 14 years old; (3) Parents or children refuse to apply acupoint application.

2 Treatment methods

2.1 Control group The use of shrinking spring pills (approval number: National Pharmaceutical Standard: Z22020489, manufacturer: Jilin Tianguang Pharmaceutical Co., Ltd.) Product specifications: 6g * 10 bags. How to take: 3 to 6 years old, 3g each time, 3 times a day; 7 to 10 years old, 4.5g each time, 3 times a day; 11 to 14 years old, 6g each time, 3 times a day.

2.2 The treatment group was treated with mulberry. Patch prescription and preparation and drug composition: mulberry 20g, hawthorn 15g, black peony 10g, yam 15g, atractylodes 10g, schisandra 10g, saura 10g, cinnamon 5g. (Chinese herbal medicine, provided by the pharmacy of the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine), the above drugs are smeared into a paste and evenly spread in the center of the special hypoallergenic stickers. Usage: Use Guanyuan, Shenque, Shenshu and spleen stickers, leave the patch for 4h, morning and evening (Note: If you don't have allergies before bedtime, you can apply it overnight), wash the skin with warm water., 7d is a course of treatment. During the use of the drug, the two groups did not eat spicy and cold products, exercised urine during the day, controlled the amount of drinking water before going to bed, and conducted psychological counseling. 7d was a course of treatment, and the clinical end of the treatment was observed.

3 Therapeutic observation

3.1 Clinical recovery: clinical symptoms, signs disappeared or disappeared, the score decreased by >95%; markedly effective: clinical symptoms, signs improved significantly, 70% ≤ integral reduction ≤ 95%; effective: clinical symptoms, signs have improved, 30% ≤ Integral reduction of <70%; Invalid: no significant improvement in clinical symptoms and signs, or even worse, less than 30% reduction in points. [Note: The calculation formula (nimodipine method) is: (pre-treatment score - post-treatment score) / pre-treatment score × 100%].

3.2 Statistical methods All data were statistically analyzed using SPSS 22.0 software, t-test for homogeneity of variance, rank sum test for variance variance, X^2 test for counting data, Ridit test for grade data. P<0.05 for difference Statistical significance.

3.3 Treatment results The total effective rate was 88.56% in the treatment group and 76.70% in the control group. The difference was statistically significant.

3.4 Adverse reactions No significant adverse reactions were observed in the two groups during the treatment.

4 Discussion

The clinical effect of 38 cases of enuresis in children with curative effect, the treatment is mainly based on warming kidney, 18 cases of healing after treatment, 15 cases markedly effective, 3 cases effective, only 2 children in the treatment process acupuncture points, timely After taking it, it can be self-healing, and the total effective rate reaches 88.56%. Because the child is younger, the current Western medicine treats the disease with desmopressin acetate. The structure of desmopressin acetate is similar to that of vasopressin. It is a chemical synthetic drug and is treated with desmopressin alone. There is a problem of high recurrence rate after stopping the drug, which affects the clinical efficacy. Long-term use of desmopressin also has headaches, gastrointestinal reactions, water and sodium retention and other adverse reactions [3]. the use of mulberry stagnation to treat spleen and kidney deficiency type children with enuresis, its advantage is that the direct, Avoid the pain of drinking medicine, remove the stimulating effect of drugs and biological effects
Clinical Observation of Bafeng half Needling for Diabetic Peripheral Neuropathy of Lower Extremities

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Abstract
This paper reports the clinical effect of bafeng half needling for diabetic peripheral neuropathy of lower extremities. Diabetic peripheral neuropathy (DPN) is one of the main chronic complications of diabetes, among which 60 ~ 90% patients have neuropathy of different degrees. Clinically, the disease is often manifested as abnormal acromegaly, numbness, pain, and even muscle atrophy and paralysis in the later stage, which seriously affects the quality of life of patients.

Key words: Diabetes Peripheral Neuropathy; half needling; Bafeng

Objective
To observe the clinical effect of Bafeng half needling for diabetic peripheral neuropathy of lower extremities.

Materials
The selected cases were 52 patients treated in the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine from May 2018 to May 2019. According to the treatment order, the patients were randomly divided into treatment group and control group, each group had 26 cases. There were 19 males and 7 females in the treatment group. The minimum age was 45 years old, the maximum age was 72 years old, and the average age was (60.72±4.97) years old. The duration was as short as 8 days and as long as 29 days. The control group included 16 males and 8 females. The minimum age was 43 years old, the maximum age was 71 years old, and the average age was (59.93±5.04) years old. The duration was as short as 10 days and as long as 31 days. There was no significant difference between the two groups in terms of sex, age and disease duration, which was comparable (P>0.05). The diagnostic criteria refer to the diagnostic criteria of DPN in 2017 Guidelines for the prevention and treatment of type 2 diabetes in China.

Methods
The control group was treated with routine acupuncture and the treatment group was treated with bafeng half needling on the basis of routine acupuncture. Dyck score, Michigan Neuropathy Screening List (MNSI) and nerve conduction velocity were observed before treatment and 4 weeks after treatment, and the clinical effects of the two groups were compared.
Group therapy

Control group points: zusanli, sanyinjiao, hegu, taichong, biguan, futu, liangqiu, neiting, yanglingquan, taixi, xian gu, yinlingquan. (Refer to acupuncture and moxiology (3rd edition) edited by professor Zhao Jiping for the location of acupuncture points.) Operation: patients are in supine position, and the needles and skin are sterilized. Select Andy brand 0.35mm * 40mm disposable sterile millimeter needle. Routine acupuncture was performed at all points to obtain needle sensation, reinforcing and reducing manipulation, and the needle was kept for 40min. The needle was treated once a day for 2 weeks for 1 course of treatment, 2 courses of continuous treatment.

Treatment group points: zusanli, sanyinjiao, hegu, taichong, biguan, futu, liangqiu, neiting, yanglingquan, taixi, xiangu, yinlingquan, bafeng. (Location of bafeng: between the first and fifth toes, the back seam of the toe web edge of the foot is also white meat agent. One measurement of four points, a total of eight points; The location of residual points was the same as that of the control group. Operation: patients are in supine position, and the needles and skin are sterilized. Select Andy brand 0.35mm * 40mm disposable sterile millimeter needle. Half needling method was used at bafeng points, that is, the needle was quickly inserted into the skin (half needling) of bafeng points successively, and the needle was quickly discharged. Reinforcing and reducing manipulation was adopted at other points. The needle was kept for 40min. The needle was treated once a day for 2 weeks for 1 course of treatment, 2 courses of continuous treatment.

Results and discussion

The total effective rate was 88.46% in the treatment group and 76.72% in the control group. The total effective rate of the two groups was statistically significant ($P < 0.05$). After 4 weeks of treatment, the Dyck score and MNSI score of the two groups were significantly reduced, and the nerve conduction velocity was significantly increased, which was significantly different from that before treatment ($P < 0.05$). After 4 weeks of treatment, the Dyck score and MNSI score of the treatment group were significantly reduced compared with the control group, and the nerve conduction velocity was significantly increased, with statistically significant difference ($P < 0.05$).

Bafeng half needling for diabetic peripheral neuropathy of lower extremities can significantly enhance the lower extremities sensation and touch of patients, improve microcirculation and repair damaged peripheral nerves improve the nerve conduction speed, and accelerate the recovery of nerve function, so as to improve the numbness, pain, paresthesia, muscle weakness and other clinical symptoms.

References:
Therapeutic effect of acupuncture at the foot-feeling area combined with antagonistic exercise on anorectal neurosis

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Abstract
The authors observed the efficacy of 21 cases of anorectal neurosis in the acupuncture and moxibustion clinic of the Second Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine from June 2016 to January 2019. The acupuncture combined with the antagonistic exercise method was used for treatment. The bilateral foot movement zone was selected and a small amplitude rapid twitching technique was performed. After the acupuncture was obtained, the patient was contracted to the anus muscle, and the needle was left for 30 minutes, and the needle was rotated once every 10 minutes. Each time twirling for 1 min, acupuncture once a day, 5 days for a course of treatment, after treatment for 2 courses, the patient recovered 14 cases, markedly effective in 6 cases, effective in 1 case, ineffective in 0 cases. Therefore, it is concluded that the acupuncture bilateral foot movement zone combined with antagonistic exercise for the treatment of anorectal neurosis is significant.

Key words: Anorectal neurosis, Foot-feeling area, Antagonistic exercise, Acupuncture

Anorectal neurosis refers to a non-organic disease that occurs in the anorectal region. It is caused by autonomic dysfunction, anorectal dysfunction, and local muscle tension. It is characterized by abnormal discomfort in the anorectal area. The most common pains occur when the discomfort is felt, especially at night. In severe cases, the lower abdomen, genital and ankle can be detained. In the long run, the patient can cause anxiety and tension, which brings inconvenience to the patient's daily life. At present, oral and topical drugs, physical intervention, local injection, biofeedback, sacral nerve stimulation, psychological intervention, and traditional Chinese medicine, acupuncture and other therapies are used in clinical treatment. The results vary. I have learned tutors in clinical practice for many years. I have learned some treatment experiences from Professor Sun Yuanzheng, namely the joint antagonism exercise in the acupuncture bilateral foot-feeling zone, is reported below.

Objective
To observe the clinical efficacy of acupuncture combined with bilateral antagonistic exercise in the treatment of anorectal neurosis.

Materials and methods
The acupuncture points select the bilateral foot movement zone. The operation method is to let the patient relax the whole body, and then sit on the chair. After the acupuncture skin is routinely disinfected, the doctor uses sterile acupuncture needles (0.35mm×40mm) to quickly penetrate under the cap-shaped diaphragm, the depth is 26mm~30mm, and then the small amplitude is fast. Repeated twirling, more than 200 rpm per minute, the patient is subjected to antagonistic exercise after acupuncture, that is, the anus is repeatedly contracted, and the needle is kept for 30 minutes. During the period, the sputum is rotated once every 10 minutes, each time twirling for 1 minute, daily acupuncture 1 time, 5 days for a course of treatment, a total of 2 courses of treatment.

Results and discussion
Refer to the "Clinical Disease Diagnosis Basis and Cure Improvement Standards" [3] and combine clinical development of efficacy evaluation criteria. In this observation, the pain disappeared completely, 14 cases, accounting for 66.7%; markedly effective pain relief, occasional long walk, slightly pain after standing, 6 cases, accounting for 28.6%; improved performance The pain was relieved, but there was still pain after a long time and long standing. There were 1 case, accounting for 4.8%; invalid: the pain was not relieved, and there were 0 cases. All 21 cases were
Benefiting Qi and Warming Yang in the Treatment of Third degree atrioventricular block

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Abstract. Third degree atrioventricular block is a severe slow arrhythmia. The implantation of a pacemaker (Pacemaker, PM) is currently the most effective and reliable method, but some patients don’t accept it. To some extent, Chinese medicine treatment can play advantage to make up for the lack of arrhythmia caused by most antiarrhythmic drugs. Professor Liu Li's treatment of third degree atrioventricular block with the method of Benefiting Qi and Warming Yang provides a new idea for the treatment of arrhythmia with traditional Chinese medicine.

Keywords: Third degree atrioventricular block : Benefiting Qi and Warming Yang ; Chinese Medicine Treatment

The normal activity of the heart depends on the smooth progress of electric impulses in the cardiac conduction system. When the atrial impulse is completely suppressed, the clinical manifestations may be palpitations, chest pain, fatigue, etc., and may induce cardiac syncope. At present, Western medicine treatment often requires pacemakers, because it is expensive, it is generally difficult to be accepted by patients; in medicine, atropine or isoproterenol is often used,
which has the disadvantages of little curative effect and may induce serious adverse reactions, and its application is limited. Chinese medicine believes that this disease belongs to the category of heart palpitations, the evidence is divided into false and real, the virtual ones supplement the temperature and the yang, the actual ones are phlegm and blood stasis, the clinical common virtual and real mixed, need to be carefully examined and examined. Professor Liu Li has used the Yiyangyang method to treat multiple cases of third-degree atrioventricular block. One case of third-degree atrioventricular block is reported below.

1 Medical case introduction

Patient, male, 78 years old. Two months ago, due to "dizziness with nausea and vomiting for three hours", he was diagnosed in the external hospital and diagnosed as "three-degree atrioventricular block of posterior circulation ischemic sinus syndrome". It is recommended that pacemaker treatment, patients refuse, for seeking conservative Treatment for treatment in our hospital. On June 30, 2018, the patient was diagnosed with the first diagnosis. The symptoms of palpitations were recurrent, accompanied by chest tightness, shortness of breath, especially at night, activities were slow, dizziness, chills and fatigue, occasional bloating after eating, acid reflux, tinnitus. I have not seen a transient black sputum and syncope, I have not mentioned the pain in the precordial area after the activity. It is not obvious that I can't be supine at night, the diet and the two are acceptable, and the sleep is normal. The tongue is pale purple, the fur is thin and white, and the veins are replaced. The private complaint has a history of urinary surgery (specifically unknown), a history of insufficient blood supply to the brain for 8 years, denying the history of coronary heart disease, denying the history of hypertension and diabetes, and denying the history of stroke. The history of smoking has been quit for many years. At the time of presentation, BP: 120/70 mmHg, P: 64 beats/min. Conscious, fluent in words, the eyes reflected on the light, the eye movements were free, the heart was not big, the heart rate was irregular, 52 times / min, no obvious abnormalities in the abdominal examination. Auxiliary examination: the slowest heart rate: 27 beats / min (occurring at 02:20), the fastest heart rate: 90 beats / min (occurs at 17:20 ), 26 strokes greater than 2.5s, second degree type atrioventricular block. ECG (2018.06.30): Heart rate 53 beats / min, third degree atrioventricular block (see Figure 1). Cervical color Doppler: the intima of the bilateral carotid artery and subclavian artery was thickened, and the blood flow was not abnormal. Brain Thyroid function: normal. Combined with the four diagnostic information of Chinese medicine and related auxiliary examinations, the treatment plan was developed by using integrated Chinese and Western medicine. Western medicine treatment: amlodipine, 1.25mg once a day, oral orally. Traditional Chinese medicine treatment: Huangqi Guizhi Wuwu Decoction and Shengmai Powder addition and subtraction, prescriptions are as follows: Astragalus 30g, Guizhi 10g, Angelica 20g, Taizishen 20g, Schisandra 20g, Ophiopogon 15g, Eucommia 20g, Pueraria 10g, Bupleurum 10g, Cimicifuga 10g, White mustard 10g, Raspberry 20g, Polygonatum 20g, Lily 20g, Rehmannia glutinosa 15g, Polygonatum 15g, Yam 20g, Agrimony 30g, Epimedium 10g. (6 pay, decoction to 300ml, one dose per day, morning and evening). After 3 months, with the addition and subtraction of the card, the patient's condition is stable, no obvious discomfort, clinical symptoms are significantly improved, and the application of traditional Chinese medicine is better.

2 Case analysis

In this case, the patient's elderly male, long-term illness is hurt, the heart is yin, the heart is the main body of the internal organs, the main blood, the heart yin loss, the lack of qi and yang, the heart is chest tightness; the blood is insufficient, the blood of the pulse less, biochemical operation is not smooth, so the pulse generation. The convulsions of chest tightness and shortness of breath are aggravated every night. The analysis of Chinese medicine is that the heart is a fire, the water is a water, and the fire is afraid of water, such as "the rule of the rule of law, the fear of fear": the heart of the person, the supporter of the heart Blood, bloody, sinful, lost in the code, empty, and smashed into the guest, this horror is also issued. Western medicine considers the conduction block for autonomic, vagal, and sympathetic abnormalities. The main bone of the kidney, the marrow, the brain, the liver and kidney deficiency, the blood can not be filled in the brain, then dizziness and tinnitus. Spleen loses health, stomach loss and decline, past smoking history for many years, then
bloating after eating, acid reflux. Long illness, physical weakness, yang fading, so chills and fatigue, pale tongue, thin white fur. Dialectic is always qi and blood deficiency, and the heart is weak. Under the guidance of the concept of "DaFa compound", the rule of law is mainly based on temperature and yang, supplemented by nourishing liver and kidney, with Huangqi Guizhi Wuwu Decoction and Shengmai Powder as the main prescription. In the process of clinical trials, the drug is added and subtracted.

Huangqi Guizhi Wuwu Decoction belongs to Zhongjing Jingfang. The original party is responsible for blood stasis and labor, and it has the effects of replenishing qi and battalion, warming blood and promoting blood circulation, soothing liver and relieving depression. Modern pharmacological research\[iv\]It was found that Huangqi Guizhi Wuwu Decoction is widely used in peripheral neuropathy caused by different causes.\[vi\]It can be used in the treatment of acute myocardial infarction, angina pectoris, etc., which can change blood rheology, reduce inflammatory factors, quickly relieve symptoms of angina pectoris, and effectively increase the rate of nitroglycerin arrest. Shengmai is scattered in "Medical Qiyuan", which has the effect of nourishing Qi, tonifying Yin and relieving sweat. Modern medicine applied to the treatment of arrhythmia, sick sinus node, myocardial infarction, etc. Using coronary artery ligation to induce acute myocardial ischemia-reperfusion injury in rats, treated with Jiawei Shengmai Sanshui decoction, the results show Jiawei Shengmai San can significantly reduce the degree of myocardial infarction and serum malondialdehyde in rats, and can increase serum superoxide dismutase activity and nitric oxide content, indicating that Shengmaisan has acute myocardial ischemia-reperfusion injury in rats\[vii\]. Certain protection. Thereafter, under the guidance of the same treatment, hypertension patients with third-degree atrioventricular block, dilated cardiomyopathy and third-degree atrioventricular block were treated, and one of them had recovered to sinus rhythm. It is considered that the clinical treatment under the guidance of the Yiyangyang method is considerable. The Wenyang Tongmai method was the main reason for the treatment of viral myocarditis with III degree atrioventricular block in children. Therefore, the method of benefiting temperature and temperature can be applied to patients who cannot be implanted with pacemaker for various reasons, in order to improve the quality of life and prolong survival.

Reference


A Brief Introduction to the Inheritance, Innovation and Development of the Combination of Traditional Medicine in China and Russia

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Abstract

With the deepening of China-Russia economic and trade cooperation, the historical trend of Sino-Russian friendly relations has led to the exchange and dissemination of traditional Chinese medicine. At the same time, with the development of modern science and technology, traditional
Chinese medicine has gradually been scientifically proven by the world's medicine and accepts the characteristic therapy of traditional Chinese medicine. Therefore, the combination of traditional Chinese medicine and traditional medicine is indispensable. The authors consulting information and observations during the exchange of internships with the Amur National Medical College, taking the traditional Chinese medicine acupuncture treatment as the starting point, focusing on the general status quo of the traditional Chinese medicine combined hospitals, the analysis of the integrated Chinese and Western medicine model, and the combination of traditional Chinese medicine and traditional medicine. Looking forward to the prospects of model development prospects, the paper discusses the inheritance, innovation and development of the combination of traditional Chinese medicine and traditional medicine. It is necessary and inevitable to recognize the combination of traditional Chinese medicine and traditional medicine, and it is also necessary to promote the development of world medicine.

Key words: traditional medicine, China-Russia, acupuncture

1. Introduction

Traditional Chinese medicine has thousands of years of historical heritage and cultural heritage. When Western medicine was not introduced to China, traditional Chinese medicine played a pivotal role. However, with the opening of the country, Chinese culture and Western culture continued to collide, and Western missionaries spread the seeds of Western medicine on this fertile land of China. Western medicine has completed a qualitative leap in the historical premise of the rapid development of modern science and technology, and has gradually been recognized and believed by the people of the country. At the same time, influenced by Western concepts and the development of science and technology, most people in society and the world believe that traditional Chinese medicine belongs to pseudoscience and does not have medical value. However, through the unremitting efforts of the vast number of Chinese medicine compatriots, Chinese medicine has achieved remarkable historical achievements with practical results and disease curative effects. It has also proved to the world the value of traditional Chinese medicine, and traditional Chinese medicine has gradually been recognized by the world.

Affected by historical and geographical factors, Russia and China have deep diplomatic relations. The two countries have conducted in-depth exchanges on culture and material and have made unremitting efforts for the development of China and Russia. Traditional Chinese medicine has played a very important role in many cultural exchanges. However, in traditional Chinese medicine, acupuncture is mainly accepted by countries all over the world, because its operation is simple, and compared with traditional Chinese medicine, the side effects are smaller [1]. Therefore, this article chooses acupuncture as the main starting point, from the following three aspects, to talk about the inheritance, innovation and development of the combination of traditional Chinese medicine and traditional medicine.

2. Current status of integrated Chinese and Russian traditional hospital

In the medical system combining Chinese and Western medicine, most of them are treated with Western medicine, supplemented by traditional Chinese medicine, and combined with some other treatments to form a curing mode of integrated Chinese and Western medicine treatment. In the treatment of modern diseases, acupuncture is mainly focused on diseases caused by neuropathy, such as stroke sequelae and cerebral palsy. In neuropathic diseases, Western medicine is used for thrombolysis and nutritional nerve treatment in the acute phase. Acupuncture and rehabilitation are used in the recovery period to promote muscle function recovery. This combination of Chinese and Western medicine for the treatment of neurological diseases is common in both China and Russia or other places of the world. In other internal and external diseases of women and children, the use of acupuncture is relatively rare. In the Russian regional hospitals that use traditional Chinese medicine and Russian medicine, influenced by the theoretical education system of language and Chinese medicine, although traditional Chinese medicine treatment methods such as acupuncture have been widely adopted, medical thinking is not systematic, in practice.

As for the acupuncture example, first of all, in the selection of acupuncture points, when the disease is treated, the acupuncture points are selected according to the international number of the
acupuncture points, and the syndrome differentiation and treatment system is lacking. The same kind of disease, due to the patient's eating habits, physical differences and other factors, as well as the different stages of the disease, the symptoms are different, in the treatment of their points are also treated differently. According to the international selection criteria, it is hard to achieve the best treatment result of the disease. Secondly, in the acupuncture method, the use of acupuncture techniques, such as the remedy of diarrhea, etc., are all adopted as the standard of acupuncture operation, which may be closely related to the concept of non-diagnostic treatment. Losing the unique treatment and operation methods of traditional Chinese medicine will greatly reduce the original treatment effect. However, it has a high grasp of the accuracy of acupoint positioning, and it is also very accurate in mastering the acupoints. It is also good at combining traditional Chinese medicine with its own medicine, and is also good at rational rehabilitation treatment, which improves the treatment effect and late prognosis of the disease.

3. Analysis of the mode of integration of Chinese and Western medicine

The combination of Chinese and Western medicine has experienced the accumulation and summarization of long-term experience, and finally achieved the characteristics of each. With the development of Chinese and Western medicine culture, the world and most medical people believe that acupuncture and other traditional Chinese medicine treatment methods are often used to treat chronic diseases, which is not the preferred treatment in acute and severe diseases. The development of science and technology promotes the advancement of medicine. Various medical devices have become an indispensable auxiliary tool for the diagnosis and treatment of diseases, which greatly improves the survival rate of critically ill patients. However, most diseases will leave behind different kinds of sequelae, such as Stroke, the later limb movement function and speech function, rely on acupuncture and rehabilitation mode to recover. This development of a combination of Chinese and Western medicine has greatly helped the treatment of many diseases and the recovery in the later stages.

4. Prospects for the development of the Sino-Russian traditional medicine combination model

The combination of traditional Chinese medicine and traditional medicine combines the strengths of the two treatments. For traditional Chinese medicine, the Sino-Russian traditional medicine combination model has played a characteristic inheritance role, and also provided a basis for the innovation of Chinese medicine. For Western medicine, traditional Chinese medicine provides new ideas for clinical diagnosis and treatment of diseases, and also solves the problem that Western medicine cannot be applied to certain diseases during recovery. Whether it is traditional Chinese medicine or Western medicine, there will be inheritance and innovation, and progress will be made to promote the development of the entire human health undertaking, and also to protect the full implementation of the big health industry. As far as traditional Chinese medicine and Western medicine are concerned, the inheritance of the combination of Chinese and Western medicine is a characteristic inheritance. The innovation of this model also has its own basic innovation.

Conclusion

The development of history and civilization is inseparable from the promotion of medicine. Under the background of economic globalization and cultural pluralism, the combination of traditional Chinese medicine and Russian medicine is necessary and inevitable for the development of the times. This model is also indispensable in promoting the development of medicine. Traditional Chinese medicine will also continue to provide Chinese wisdom and China programs for the world's health.

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Effect of penetrating acupuncture on idiopathic facial palsy: a clinical observation of 60 cases

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Abstract
This paper introduces Professor Li Xiaoning's special needling method: penetrating puncture for idiopathic facial paralysis. Based on the theory of meridians and collaterals of traditional Chinese medicine and combined with the distribution characteristics of facial nerve and muscle anatomy, Professor Li innovatively put forward the idea of holistic treatment, meanwhile, highlight on the local. The method of penetrating the meridian by acupuncture provides a new idea and method for the treatment of idiopathic facial paralysis in clinic. In this trial, the amplitude of motor nerve conduction velocity was taken as the observed index, and the change of amplitude was related to the axonal damage of facial nerve. The percentage of amplitude loss represented the axonal involvement, and the smaller the ratio, the faster the recovery. The degree of nerve injury before and after treatment were evaluated by nerve electrophysiological test (electromyography/evoked potentiometer (Keypoint, 9031A 070), Bell's palsy 10-item scoring method and House-Brackmann facial nerve function grading (H-B grading).

Key words: electroacupuncture; Penetrating puncture; idiopathic facial paralysis; Clinical observation.

Idiopathic facial palsy, also known as facial neuritis or Bell palsy, refers to the peripheral facial paralysis caused by acute nonspecific inflammation of the facial nerve within the stylomastoid foramen. The specific pathogenesis of it is not yet clear. It is mainly characterized by sudden motor dysfunction of facial expression muscle groups on one side, with the disappearance of frontal lines, incomplete eyelid closure, shallow nasolabial groove, and slanted mouth angle to the healthy side, and some patients can also be accompanied by symptoms such as reduced taste and hearing hypersensitivity. According to some statistics, the prevalence rate in China is about 425/100,000, and the annual incidence is 26-34/100,000. In recent years, the patients are getting younger. Most patients have self-healing tendency and have a good prognosis, but a small number of patients will leave sequelae, which seriously affects the life feed of patients, and their physical and mental health can also be damaged at the same time.

Objective
To observe the effect of penetrating acupuncture for idiopathic facial palsy.

Materials and methods
60 cases of patients in line with this study were collected and assigned to the treatment group and control group by random number table method, with 30 cases in each group. Patients in both groups received basic treatment as follows: prednisolone tablet, 15mg each time, twice a day, and decreased after 5 days; medrine tablet was taken 0.5 mg each time, three times daily; aciclovir tablet was taken 20mg each time, four times daily according to the actual situation.

Facial penetration was used in the treatment group: "Ti'e point" penetrate toward "yangbai"(GB14); "yangbai"(GB14) penetrate toward "yuyao"(EX-HN4); "tongziliao"(GB1) penetrate toward "taiyang"(EX-HN5); "taiyang"(EX-HN5) penetrate backwards; "juliao"(ST3) and "quanxiao point" mutual penetration; "quanliao"(SI18) and "quanda point" mutual penetration; "dicang"(ST4) and "jiache"(ST6) mutual penetration.
The control group was treated with routine acupuncture: "yangbai"(GB14), "sibai"(ST2), "quanliao" (SI18), "jiache"(ST6), "dicang"" (ST4), "yifeng"(SJ17), "hegu"(LI4).

Patients in both groups were treated with electroacupuncture after acupuncture, and acupuncture treatment was performed twice a day for 30min each time in the two groups. The intensity is measured by the slight pulsating and endurance of the patient's facial muscles. After 6 days of treatment, there was 1 day of rest and 1 course of treatment on 7 days, for a total of 3 courses of treatment. The degree of nerve injury before and after treatment were evaluated by nerve electrophysiological test, Bell's palsy 10-item scoring method and House-Brackmann facial nerve function grading (H-B grading). Motor nerve conduction velocity examination was conducted on the 7th day of onset and after treatment for the two groups of patients, the amplitude of action potential was recorded, and the percentage of amplitude loss was calculated. All statistical data were statistically analyzed by using spss19.0 software.

Results and discussion

1. Before treatment, the baseline data of all patients were statistically analyzed, and there was no significant difference between the two groups (P>0.05).

2. After three courses of treatment, the scores of each scale and motor nerve conduction velocity were significantly improved compared with those before treatment (P < 0. 01), indicating that both different treatments are effective.

3. After treatment, there was significant difference in the total effective rate between the two methods (P < 0.01). The total effective rate of the treatment group was 93. 5%. The total effective rate of the control group was 86. 5%. Compared with the conventional acupuncture group, the total effective rate of the penetrating acupuncture group was higher than that of the conventional acupuncture group.

The acupoint of the treatment group (penetration acupuncture method) was put forward by Professor Li: (1)"Ti'e point": 1 cun above "yangbai"(GB14). It is located in the frontal muscle, distributed with the lateral branch of the frontal nerve, which controls the eyebrows to rise, forming the forehead line. (2)"quaxiao point": The intersection of the extension line between "ermen"(SJ21) and "quanliao"" (SI18) and the perpendicular line of "quihou"(EX-HN7). It is in the zygomatic minor muscle, and has a facial nerve branch below it, which is mainly pulling up at the angulus oris. (3) "quada point": It is located at the intersection of the line "tinggong"(SI19) and "chengjiang"(RN24) and the nasolabial sulcus. In the zygomatic major, there is a branch of the facial nerve, which controls the upward and outward pull of the angulus oris.

By simplifying acupoint selection, acupuncture at one point is equivalent to acupuncture at several points, and the pain and fear of acupuncture are reduced. Penetrating puncture has the characteristics of strong stimulation intensity and needle sensation on the affected side, which is beneficial to restore facial nerve function. In the process of penetrating acupuncture, the needle sense is easy to diffuse, which can strengthen the stimulation and conduction of meridians, thus promoting the circulation of qi and blood, improving the curative effect, expanding the scope of acupuncture, and communicating the echo of meridians and qi. For the clinical treatment of idiopathic facial nerve palsy patients, the use of penetrating acupuncture combined with electroacupuncture treatment and conventional acupuncture combined with electroacupuncture treatment have a clear effect. The clinical effect of penetrating acupuncture on idiopathic facial nerve palsy is more definite than that of conventional acupuncture group.

References:
Effect of Huanglian Wendan Decoction on Lipid Metabolism and FFA in Metabolic Syndrome Rats

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Abstract
Objective: To observe the effect of Huanglian Wendan Decoction on lipid metabolism and FFA in rats with metabolic syndrome (MS) and its mechanism of action; Methods: the MS rat model was constructed by using the dietary feeding mode. The 44 MS rats that met the molding standards were randomly divided into the western medicine group (8 rats), the model group (9 rats), the high, medium and low dose groups (9 rats respectively), and the blank group (8 rats). After 4 weeks of drug intervention, the expression level of blood lipids in each group was detected by a fully automated analytical instrument, and the expression level of FFA was detected according to the FFA colorimetric kit. Result: After drug intervention, the expression levels of TC, TG and FFA in the high dose group of Huanglian Wendan Decoction group were significantly lower than those in the model group, and the difference was statistically significant (P<0.05); Conclusion: Huanglian Wendan Decoction may reduce the expression of TC and TG in MS rats, regulate lipid metabolism, reduce FFA expression, reduce inflammation and improve insulin resistance.

Key words: Huanglian Wendan Decoction; metabolic syndrome; insulin resistance

Metabolic syndrome (MS) is a new non-communicable disease. According to relevant data, global MS patients will reach 2.568 billion in 2040, which has become the main health hazard in the modern world [1]. Huanglian Wendan Decoction is a classic Chinese medicine classic for clearing away heat and dampness, regulating qi and removing phlegm, and stomach and gallbladder. Its clinical research value is huge.

Objective
This study intends to use Huanglian Wendan Decoction to treat dietary-induced MS rats, observe its effect on lipid metabolism and FFA in MS rats, and explore the therapeutic mechanism of Huanglian Wendan Decoction in the treatment of MS.

Materials and methods
Seventy healthy male and 8-week-old SD rats (body weight 173.2±10.32g) were randomly divided into 10 blank rats and 60 model rats, and fed for 20 weeks. The blank group was fed with ordinary feed, and the model was fed with high-sugar, high-fat and high-salt feed. After 20 weeks, 44 MS rats were randomly divided into the western medicine group (8 rats), the model group (9 rats), the high, medium and low dose groups (9 rats respectively). In addition, the remaining 8 rats in the blank group.

According to the table of equivalent dose ratios converted by body surface area between humans and animals, the high, medium and low doses of Huanglian Wendan Decoction containing crude drugs were 22g/kg/d, 11g/kg/d and 5.5g/kg/d, respectively. The dosage of Western medicine (Gehuazi) group was 90mg/kg/d. Rats in model group and blank group were given distilled water by gastric perfusion once a day for 4 weeks. After 4 weeks of drug intervention, the rats were injected with 0.20% uratan (2ml/kg) intraperitoneally. After anesthesia, the rats were fixed in supine position and opened layer by layer along the midline of the abdomen. The blood of the abdominal aorta was collected for 2 ml, 3 000 rpm and centrifuged for 15 minutes. The upper serum was
separated and stored at -20 °C. The expression levels of blood lipids in each group were detected by a fully automated analytical instrument, and the expression level of FFA was detected according to the FFA colorimetric kit.

Results and discussion

1. Results: Lipid metabolism and FFA expression in rats in each group (Table 1).

The blank group in the table, the model group, the high, medium and low dose groups of traditional Chinese medicine; the western medicine group correspond to groups 1, 2, 3, 4, 5, and 6, respectively.

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>TG (mmol/L)</th>
<th>TC (mmol/L)</th>
<th>HDL-C (mmol/L)</th>
<th>LDL-C (mmol/L)</th>
<th>FFA (umol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group1</td>
<td>8</td>
<td>0.97±0.10</td>
<td>2.68±0.29</td>
<td>0.72±0.05</td>
<td>0.74±0.10</td>
<td>200.10±20.53</td>
</tr>
<tr>
<td>Group2</td>
<td>9</td>
<td>1.18±0.11Δ</td>
<td>3.26±0.33Δ</td>
<td>0.68±0.09</td>
<td>0.84±0.11</td>
<td>275.16±19.05Δ</td>
</tr>
<tr>
<td>Group3</td>
<td>9</td>
<td>1.03±0.12&quot;</td>
<td>2.89±0.35&quot;</td>
<td>0.68±0.07</td>
<td>0.78±0.09</td>
<td>221.09±23.72&quot;</td>
</tr>
<tr>
<td>Group4</td>
<td>9</td>
<td>1.13±0.17</td>
<td>2.95±0.36</td>
<td>0.64±0.06</td>
<td>0.79±0.09</td>
<td>265.48±22.41</td>
</tr>
<tr>
<td>Group5</td>
<td>9</td>
<td>1.17±0.18</td>
<td>3.18±0.28</td>
<td>0.70±0.08</td>
<td>0.82±0.09</td>
<td>260.13±18.94</td>
</tr>
<tr>
<td>Group6</td>
<td>8</td>
<td>1.19±0.17</td>
<td>3.23±0.38</td>
<td>0.72±0.09</td>
<td>0.81±0.08</td>
<td>225.17±20.62&quot;</td>
</tr>
</tbody>
</table>

Note: △P<0.05 compared with the blank group; "P<0.05 compared with the model group.

As shown in Table 1, the TG, TC, and FFA of the model group were significantly higher than those of the blank group, and the differences were statistically significant (P<0.05); The levels of TG, TC and FFA in the high dose group of Huanglian Wendan Decoction group were significantly lower than those in the model group, and the difference was statistically significant (P<0.05); The FFA of the western medicine group was significantly lower than that of the model group, and the difference was statistically significant (P<0.05).

2. discussion

MS is a group of pathological conditions characterized by abdominal obesity, insulin resistance, hypertension, and hyperlipidemia, which is associated with an increased risk of type 2 diabetes and cardiovascular disease, and the development of these conditions is closely related to dyslipidemia in patients [2]. Therefore, correcting lipid metabolism disorders is critical for the prevention and treatment of MS and its related conditions. Huanglian Wendan Decoction has been proven to have significant pharmacological effects such as lipid lowering, hypoglycemic and anti-inflammatory [3]. However, the specific therapeutic mechanism of its prevention and treatment of MS has not been clarified. In addition, studies have found a close relationship between dyslipidemia and insulin resistance [4], increased FFA is related to the pathogenesis of insulin resistance and subsequent development of MS [5]. This experimental study found that the high dose group of Huanglian Wendan Decoction can significantly reduce the levels of TG and TC in MS rats. Therefore, we speculate that Huanglian Wendan Decoction may reduce the expression of TC and TG in MS rats, regulate lipid metabolism, reduce FFA expression, reduce inflammation and improve insulin resistance. Among them, the effect of reducing FFA in the high-dose group of huanglian wendan decoction was similar to that in the western medicine group. This above outcome may be related to the main pharmacodynamic basis of Huanglian Wendan Decoction, such as berberine hydrochloride, hesperidin, monoammonium glycyrhrhizinate and the like. Modern research has found that berberine and its extract berberine have good lipid-lowering, hypoglycemic, and insulin sensitivity-enhancing effects [6], Hesperidin can reduce obesity, hyperglycemia, hyperlipidemia, and improve insulin resistance [7]. However, the specific and deep-level mechanism of prevention and treatment of MS by Huanglian Wendan Decoction needs to be further explored and studied.
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Study on the rule of treatment of pulmonary palsy syndrome based on data analysis of ancient medical cases

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About the author: Wei Changjuan (1992), female, master student, main research direction: Integrative Chinese and Western medicine to prevent respiratory diseases.

Abstract
Objective: to summarize the rule of diagnosis and treatment of pulmonary biliasis by means of philological research, in order to provide clinical ideas for diagnosis and treatment of pulmonary biliasis. Methods: through the library collection literature database and the Chinese medical code software of Heilongjiang University of traditional Chinese medicine, data mining was carried out on the medical case of albic disease, and the rule of the diagnosis and treatment of albic disease was explored. Results: 1. The position of pulmonary albic disease is in the lungs, and it is closely related to the spleen and kidneys. It can involve skin. 2. The pathogenicity of pulmonary albic disease is a virtual standard. The etiology and pathogenesis of 3 pulmonary albic disease are complex vein stasis and evil damage to the lung. 4. The treatment of pulmonary biliasis is mainly based on "making up deficiency and removing reality." Conclusion: 1. The disease is located in the lungs. 2. The pathogenicity of lung disease is based on the deficiency of the spleen and kidneys of the lungs, and the blood stasis of the veins is the standard. The main disease mechanism of 3 lung disease is arteriosclerotic obstruction and evil damage to the lung. 4. The treatment of lung disease is mainly based on the "virtual" of the lungs, spleen, and kidneys, and the two main rules of the "standard" of the Tongluo and the "standard".

Key words: albic disease; Ancient and modern medical cases; The rule of proof; Documentary research

Pulmonary sputum refers to the impediment of the pulmonary venous sputum, which is one of the five internal organs\footnote{1}. The early causes of pulmonary rickets are wind, cold, phlegm, dampness, lung collaterals, and can still withstand the attack\footnote{2}. In the medium term, lung, spleen and kidney qi deficiency, phlegm and phlegm are in the lungs. Pathological manifestations\footnote{3}. Late features are yin and yang, and the lungs are blocked\footnote{4}. This disease is one of the most common critical illnesses in the lung system. However, there are still few studies on this disease, and there is still much controversy about its syndrome

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1. Objective
Using literature research methods, through the summary of the treatment of pulmonary rickets, in order to provide clinical ideas for the diagnosis and treatment of pulmonary rickets.

2. Differentiation Research content and method

2.1 The content of this study is based on the library platform of Heilongjiang University of Traditional Chinese Medicine. The application of Chinese medical code and other software supplements the preliminary screening of the theme of “medical case”: personal medical books, special books, books and other medical records in ancient books. In the relevant bibliography, the search results are searched with the search term “Lung” and manually screened according to the selection. Collected and screened 52 medical records of ancient doctors for treating lung sputum. And the application of data standardization processing, the establishment of relevant databases, the use of statistical analysis software for statistical analysis of pulmonary sputum symptoms, drugs, in order to provide a theoretical basis for the clinical diagnosis and treatment of pulmonary rickets

2.2 Research Methods Based on the collection of 52 cases of pulmonary sputum, establish symptoms and drug lists, and collect all the data collected from the medical records using the internationally recognized authoritative statistical analysis software SAS system for windows V9.1. Frequent frequency analysis was used to analyze the symptoms of pulmonary sputum and the frequency of drug use, and the clinical symptoms and frequency of drug use were calculated and analyzed. Then, the selected symptoms and drugs were selected by factor analysis and cluster analysis to explore the symptoms and drug intrinsic hidden variables in the medical case and to find out the drug compatibility of the common syndromes and treatments of pulmonary rickets. The rule of treatment of pulmonary rickets.

3. Result and discussion
In this study, through the frequency analysis of the symptoms of pulmonary rickets, it is concluded that the symptoms of pulmonary rickets have certain symptoms and syndromes. The following are summarized as follows: (1) The syndrome of pulmonary qi deficiency and blood stasis is the main cause of qi deficiency. The pathogenesis of collateral damage; (2) with vomiting, abdominal distension, backache, and no diet, reflecting the spleen and kidney deficiency, the pathogenesis of stomach upset; (3) with hypochondriac pain, lower chest Full of tongue and white tongue, mainly reflects the sputum stop in the chest and threaten the pathogenesis of the loss of the Secretary; (4) above the cough, full of impatience, mainly reflects the disease of lung yang deficiency (5) mainly with asthma, chest and sputum, reflecting the pathogenesis of lung and stagnation of the lungs; (6) with cough and asthma, not lying, cold and heat, reflecting the cold The pathogenesis of wet stagnation syndrome.

Through the collation of the results of the above-mentioned data on pulmonary rickets, we propose the following rules for the treatment of pulmonary phlegm syndrome for scholars' reference and criticism: (1) The disease is located in the lungs, closely related to the spleen and kidney, and may involve the skin. (2) The pathogenesis of this disease is mainly collateral stagnation and stagnation of the lungs. (3) Treatment of pulmonary rickets When the lungs, spleen and kidney are treated respectively, the "genuine" is the main principle and the two rules are based on the "standard" of Tongluo.

Reference
Insomnia Cases of Jueyin Syndrome Treated by Modified Black Plum Bolus of Classical Prescription in Treatise on Febrile Diseases

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Abstract: [Objective] To explore black plum bolus(乌梅丸) of Classical Prescription in Treatise on Febrile Diseases(伤寒论), in order to provide reference and guidance for the treatment of insomnia of Jueyin Syndrome.[Methods] Systematic analysis of principle of formulating prescription and modern pharmacological study of black plum bolus was made, and the etiology and pathogenesis of insomnia in Jueyin syndrome were explained. Finally, the clinical case of black plum bolus in treating insomnia in Jueyin syndrome was explained concretely. [Results] Professor Shi Guochen achieved satisfactory results with black plum bolus of Treatise on Febrile Diseases in treating insomnia of Jueyin syndrome. [Conclusion] Professor Shi Guochen expounded his essence according to Zhang Zhongjing's academic thoughts, and there were great effect that he applied it in clinical practice in treating insomnia in Jueyin syndrome flexibly. It is worth learning deeply.

Key words: insomnia; Jueyin syndrome; black plum bolus; midnight-midday ebb flow; Shi Guochen; experienced case

Brief introduction. Insomnia is a subjective experience that the time and/or quality of sleep and the social function during the day on the patient were affected[1]. Competition in modern society is fierce and people's mental pressure increases in various kinds of aspects, which has made emotional factors become the main cause of insomnia gradually[2]. In 2016, the American Medical Association published its own clinical practice guidelines for the treatment of chronic insomnia, and pointed out that there was insufficient evidence to determine the efficacy of benzodiazepines, trazodone and melatonin in the treatment of chronic insomnia[3]. And many Western medicine hypnotics have obvious side effects, so the treatment of insomnia patients should be paid attention to. The treatment of insomnia with traditional Chinese medicine has the characteristics and advantages of treatment based on syndrome differentiation[4]. Therefore, from the perspective of traditional Chinese medicine therapy, it is particularly important to find effective treatment methods to alleviate patients' pain. This paper records Professor Shi Guochen's experience in treating insomnia of Jueyin syndrome based on classical Chinese medical books and clinical experience of more than 30 years, combined with the concept of meridian flow, using black plum bolus to add or subtract, and it had good results.

Clinical Research Progress of Acupuncture and moxibustion in the treatment of nervous tinnitus

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Abstract
Nervous tinnitus has the characteristic of various causes. And it’s also difficult to cure, which has a severe impact on people's work and life. This paper analyzes and sums up the papers on acupuncture and moxibustion in the treatment of nervous tinnitus in recent years, and discusses the treatment of body acupuncture, moxibustion, acupuncture with electric stimulation, acupuncture combined with moxibustion, and acupuncture combined with medication.
Key words: nervous tinnitus, acupuncture, moxibustion

Neurotic tinnitus, otherwise known as sensorineural tinnitus, emphasizes the subjective feelings of patients. It refers to the abnormal sound feeling produced by people without any external stimulation, such as feeling cicadas, buzzing, hiss and other monotonous or mingled sounds in the ear. If it is persistent tinnitus, especially with deafness, vertigo, headache and other symptoms. In the past few years, the articles of acupuncture and moxibustion in the treatment of neurotic tinnitus are summarised as follows.

1. The therapy of body acupuncture

Wang Yafang and others applied acupuncture to deal with 25 patients with neurotic tinnitus, needled at GB2, TE21, GB43 and SI19. And the total effective rate was 96% [1]. In the treatment of 58 patients, Guo Hui and others treated 58 patients by Deficiency-excess Differentiation. The patients with repletion pattern were mainly needled at GB2, TE17 and GB43, the aim was to clear the liver and drain fire; the patients with deficiency syndrome were mainly needled at KI3, KI6 and SI19, the aim was to supplement the kidney. The total effective rate was 91.38% [2].

2. The therapy of moxibustion

Zhuang Keqing and others treated 31 patients with ear canal moxibustion. During the treatment, smokeless mocha tablets were lit on both sides of the ears and fixed in the back cover. The inner ear tube was placed in the external auditory canal for moxibustion. The degree of thermal stimulation was patient’s tolerance. The total effective rate was 74.2% [3]. Song Chunxia and others adopted the method of thunder-fire moxibustion combined with sound therapy for 36 patients for treatment, thunder-fire moxibustion’s therapeutic site were three points in front of the ear (TE21, SI19, GB2), TE17, GV20. The total effective rate was 91.7% [4].

3. The therapy of acupuncture with electric stimulation

Kuang Qiuhe and others treated 22 patients with electroacupuncture, and the main points included GB8, TE21, SI19, GB2, TE17, and TE3. TE21, SI19 and GB2 each time only took one and took turns to use. The total effective rate was 86.36% [5]. Liu Minjuan used electroacupuncture and audio resonance to deal with 50 patients with nervous tinnitus. The main points were TE17, SI19, GB2, TE21 and GB20. The patients with pattern of effulgent liver-gallbladder fire were needled at LV3 and GB40 complementally, The patients with pattern of insufficiency of kidney essence were needled at BL23 and GV4 complementally, The patients with pattern of phlegm and heat binding together were needled at ST40 and ST44 complementally, The patients with spleen stomach weakness pattern were needled at BL20 and ST36 complementally, The patients with pattern of ascendant hyperactivity of liver yang were needled at TE3 and TE5 complementally. The total effective rate was 97.2% [6].

4. The therapy of acupuncture combined with medication

Xu Yongzhu used acupuncture combined with moxibustion to treat 43 patients with nervous tinnitus. Abdominal points included CV12, CV10, CV6, and CV4. And other points included TE21, SI19, GB2, GB20, TE17 and GB12 of the affected side. They applied warm needling moxibustion at SI19 and GB2. At the same time cauterized at CV8 for 30 min. The total effective rate was 65.12% [7]. Qu Yaoyao and others treated 17 patients by using reed-tube moxibustion combined with acupuncture at SI19, GB2 and GB12. Acupuncture and reed-tube moxibustion were made at the same time, once a day, 5 days as a course of treatment, 4 courses of treatment in total. the total effective rate was 94.1% [8].

5. The therapy of acupuncture combined with medication

Lu Yilan and others treated 30 patients with acupuncture coupled with medicine, and needed at GV20, GV26, SI19, ST7 and TE17. The patients with kidney deficiency pattern were needled at BL23 complementally; the patients with pattern of effulgent liver-gallbladder fire were needled at LR3 and TE5 complementally; the patients with pattern of external contraction of wind-heat were needled at LI4 complementally. At the same time the patients had to drink Bupleurum Decoction Plus Dragon Bone and Oyster Shell. The total effective rate were 96.7% and the recovery rate was 50.0% [9]. Wang Hao and others took zhuyu tongmai capsule (produced by Harbin pharmaceutical group sanjing qianhe pharmaceutical co. LTD, national drug approval number Z20000138)
combined with body acupuncture to treat 43 nervous tinnitus patients, the total effective rate was 93.2%.[10]

Conclusion

Through the use of body acupuncture, electroacupuncture, moxibustion, acupuncture combined with moxibustion, acupuncture combined with medication and other methods to treat nervous tinnitus, has achieved good curative effect. The doctors of traditional Chinese medicine are good at identifying patterns and administering treatment. On the basis of selecting the main points, they add the corresponding points according to different pattern type, then use acupuncture and moxibustion, or utilize electroacupuncture and drugs to achieve the best effect. However, the related researches still have some shortcomings. For example: (1) Tinnitus is a subjective feeling and cannot be measured objectively, so some errors may be caused in the experiment. (2) The number of randomized controlled trials with larger samples is relatively small. I hope that with our joint efforts, the curative effect of nervous tinnitus will be more and more obvious.

References:


Clinical efficacy analysis of beryllium needle therapy combined with extracorporeal shockwave in the treatment of plantar fasciitis

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Abstract
Objective:Toobserve the clinical efficacy of beryllium needle combined with extracorporeal
shockwave in the treatment of plantar fasciitis. Methods: 88 patients with metatarsal fasciitis who met the research criteria were randomly divided into the treatment group and the control group. 45 patients in the treatment group were treated with beryllium needle combined with extracorporeal shock wave, and 43 patients in the control group were treated with fumigation with traditional Chinese medicine. Patients' VAS scores before treatment were compared with those at 2 weeks and 3 months after treatment. Results: VAS score and AOFAS-AHS score were improved in both groups after treatment, and the effect of beryllium acupuncture combined with extracorporeal shock wave was significant better than that of fumigation with traditional Chinese medicine (P < 0.05). Conclusion: both groups could effectively improve the clinical symptoms of patients, and the effect of beryllium acupuncture combined with extracorporeal shock wave treating plantar fasciitis was better than that of fumigation with traditional Chinese medicine.

Key Words: Beryllium needle; The shock waves; Plantar fasciitis; The pain; Traditional Chinese medicine fumigation

Plantar fasciitis, is a kind of disease mainly manifested by pain. It occurs in plantar fascia on the plantar bottom and can be unilateral or bilateral[1], which is the common cause of heel pain. Standing, walking, running, obesity and other factors for a long time can cause and aggravate this pain[2]. However, the exact histopathology of plantar fasciitis is not fully understood. At present, it is believed to be secondary to mucinous degeneration, internal microtars of plantar fascia, plantar aponeurotic collagen necrosis and vascular fibroblast proliferation[3]. According to the clinical manifestations, it is attributed to the category of "Jinshang" and "Bibing" in traditional Chinese medicine[4]. There are a variety of treatment methods for metatarsal fasciitis, including drug therapy, physical therapy such as stretching, insoles, night splints, non-surgical treatment such as local steroid injection, and surgical treatment such as plantar fasciitis, but the effects are different[5]. Beryllium needle and shock wave have advantages of good efficacy and small side effects in the treatment of metatarsal fasciitis. This study observed and compared the combined application of beryllium needle and extracorporeal shock wave in the treatment of metatarsal fasciitis and the fuming treatment of traditional Chinese medicine, as reported below.

Objective

To observe the clinical efficacy of beryllium needle combined with extracorporeal shockwave in the treatment of plantar fasciitis.

Materials and methods

88 patients with metatarsal fasciitis who met the research criteria were randomly divided into the treatment group and the control group. 45 patients in the treatment group were treated with beryllium needle combined with extracorporeal shock wave, and 43 patients in the control group were treated with fumigation with traditional Chinese medicine. Patients' VAS scores before treatment were compared with those at 2 weeks and 3 months after treatment.

Results and discussion

VAS scores of patients in the treatment group and control group before treatment showed no significant difference (P >0.05). At the second week after treatment, there was no statistically significant difference in VAS scores between the treatment group and the control group (P>0.05). VAS scores of patients in the treatment group were significantly lower than those in the control group at the third month after treatment (P<0.05).

AOFAS-AHS scores of patients in the treatment group and control group before treatment showed no statistically significant difference (P >0.05). AOFAS-AHS scores were significantly increased in the second week after treatment and the third month after treatment compared with those before treatment (P<0.05). On the second week after treatment, there was no statistically significant difference in AOFAS-AHS scores between the treatment group and the control group (P>0.05). AOFAS-AHS scores in the treatment group were significantly higher than those in the control group at the third month after treatment (P<0.05).

Through the clinical observation, we can see that the treatment group and the control group in the near future and the forward got obvious efficacy in reducing plantar fasciitis symptoms, so both of them had significant meaning in clinical treatment. However, through the VAS score and AOFAS-
AHS score, we can easily find that beryllium needle therapy combined with extracorporeal shock wave for long curative effect in patients with plantar fasciitis was superior to the traditional Chinese medicine fumigation, the difference was statistically significant (P < 0.05). The advantages of beryllium needle combined with extracorporeal shock wave therapy mainly lie in the combination of traditional therapy and modern therapy, and the combination of the two can complement each other in the treatment of metatarsal fasciitis at all levels. Therefore, the long-term efficacy of alleviating pain and the comparison of function scores in patients were significantly better than that in the control group.

In recent years, there are more and more treatments of plantar fasciitis, with the more and more side effects and contraindications. For plantar fasciitis, the beryllium needle therapy combined with extracorporeal shockwave, is a good way to release the conglutination, alleviate pain, restore normal walking function, and guarantee the patients quality of life, and has significantly clinical promotion meaning.

References:

Advances in the treatment of cervical HPV infection by traditional Chinese and western medicine

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Abstract
Human papillomavirus (HPV) infection is the main cause of cervical cancer. Currently, there is no unified and effective treatment for HPV infection. Clinical use HPV vaccine, interferon, physical therapy. In traditional Chinese medicine, clearing heat and detoxifying, attacking toxic sanjie and strengthening health are the main methods of treatment. This article summarizes and analyzes the treatment methods and efficacy of Chinese and western medicine for cervical HPV infection in recent years.

Key words: Human papillomavirus, cervical cancer, integrated Chinese and Western medicines

In 1974, German virologist ZurHausen[1] et al. proposed that HPV may be related to the incidence of cervical cancer. In 1995, the international association on cancer (IARC) symposium identified HPV infection as a necessary condition for the development of cervical cancer[2].

1. the mechanism of cervical HPV infection
Currently, it is believed that the genes related to the oncogenic effect of HPV DNA are mainly E6, E7 and E2. The E6 and E7 proteins of HPV virus respectively activate the cell cycle regulators p53 and pRB, inhibit the functions of p53 and pRB, and cause the dysregulation of cell proliferation and apoptosis. The integration of HPV DNA often causes the deletion of viral E2
fragments, leading to the uncontrolled expression of E6 and or E7 genes, leading to cell transformation or canceration [3].

2. TCM understanding of cervical HPV infection
   Cervical HPV infection and cervical cancer often abnormal amount, color, quality, will be attributed to the category of "under the belt disease". Its pathogenesis was summarized as deficiency of vital qi, and pathogenic toxin of dampness and heat accumulated in zimen. To clear heat and detoxify, to attack poison sanjie and to strengthen the body.

3. Treatment

3.1 Western medicine treatment of cervical HPV infection
   For cervical HPV infection, the main treatment of western medicine HPV vaccine, western medicine, physical therapy and surgical treatment. Due to the diversity of HPV genotypes and the lack of effective in vitro HPV culture system, vaccine research progress is slow. Of HPV vaccine research is aimed at high-risk type HPV, including two kinds of prophylactic vaccines and therapeutic vaccines, including preventative vaccine by inducing humoral immune response against HPV infection effectively, while therapeutic vaccines mainly by stimulating cellular immune response to clear the virus infection or clean up has mutated cells, to achieve the treatment of HPV cause verrucous hyperplasia and carcinoma lesions [4]. Western medicine in the treatment of HPV infection has no specific therapeutic drugs, interferon is the main therapeutic drugs. Li ai-lu [5] used recombinant human interferon alpha 2b vaginal effervescent capsule (xin fu-ling) to treat cervical HPV infection. The total effective rate of the treatment group for 3 courses was 78.12%, while the negative conversion rate of the control group was only 9.5%. For cervical HPV infection, western medicine can adopt physical therapy and surgical resection for local cervical symptoms after HPV infection, such as freezing, CO2 laser, electric cauterity, LEEP and so on. It is mainly to remove the pathological tissues after HPV infection, so as to achieve the effect of removing HPV virus [6].

3.2 Treatment of cervical HPV infection by traditional Chinese medicine
   Through detoxification, liver clearing, removing blood stasis and supplementing deficiency, traditional Chinese medicine can improve the human body environment and local cervical immune microenvironment, directly remove HPV virus and indirectly remove HPV by enhancing human immune function. Traditional Chinese medicine has external use, internal treatment and internal and external treatment. Ming-ying zhang [7] to realgar 26 cases of cervical HPV DNA in cervical medication positive and CIN 1 patients, research shows that: realgar can reduce cervical cancer lesion before cervical HPV DNA load and reversing CIN 1, beyond its natural HPV DNA clearance and CIN 1 reversal rate. Wang yan [8] selected 60 patients with cervical HPV infection. Patients in the treatment group were treated with oral Chinese medicine for invigorating spleen and dampening dampness combined with herbal therapy for baofukangshuan in the vagina, while patients in the control group were treated with herbal therapy for baofukangshuan in the vagina. After 3 consecutive menstrual cycles, HPV conversion rate and clinical efficacy in the treatment group were significantly better than those in the control group. Zhang peiying [9] showed that the intervention of traditional Chinese medicine in cervical HPV infection by clearing heat and detoxifying and supporting zheng method has the functions of clearing heat and detoxifying, enhancing immunity, anti-virus and reducing HPV load.

3.3 Combination of Chinese and western medicine
   Xu jiangjun [10] selected 320 patients with cervical erosion combined with HPV infection, and divided them into baofukangshuan group (110 cases), interferon group (100 cases) and combined treatment group (110 cases). The HPV negative conversion rate of the combined treatment group was 92.8%, significantly higher than the 59.1% of the single treatment group and 61.0% of the interferon group. The combination of baofukangshuan and interferon can improve the curative effect of drugs by preventing various pathogenic microorganisms and broad-spectrum antiviral effect, changing the environment inside the vagina and inhibiting the replication of the virus.

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Analysis on the TCM constitutional type distribution of 228 patients with sub-health

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Abstract

Objective: To explore the TCM constitution types distribution of 228 patients with fatigue sub-health, and analyze the characteristics and causes. Methods: The 228 patients with fatigue sub-health who were admitted to the first affiliated hospital of Heilongjiang university of TCM for treatment were selected. Results: There were 45 cases with single constitution and 183 cases with compound constitution. The former three types in the single constitution, are Mild type, Qi-deficiency type and Qi-depression type. In the compound constitution, there were 23 cases with two kinds of composites, and 32 cases of three kinds of composites. Conclusion: Compound constitution accounted for a large proportion, and it is mainly Qi-deficiency type, Yang-deficiency type and Qi-depression type compound of another.

Keywords: Sub-health; Fatigue; Constitutional types of Chinese medicine

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With the continuous development of social and economic conditions in China, major risk factors of chronic diseases such as increasing work pressure, lack of physical activity and unhealthy eating and living habits are gradually prevalent \(^1\). These adverse living habits stress reactions in nervous, cardiovascular, immune, metabolic and other physiological systems gradually break the dynamic balance of system functions, and eventually lead to the occurrence of diseases \(^2\). The body is considered to be in a state of sub-health as this process is gradually thrown out of balance. Sub-health state is considered as a reversible sub-clinical stage in the course of disease development, and fatigue is the most common symptom among all the symptoms of sub-health of body \(^3\). The etiology that causes fatigue symptom may have some correlation with constitution.

**Objective**

In this study, 228 patients with fatigue sub-health admitted to the prevention and treatment center of the first affiliated hospital of Heilongjiang university of TCM in 2018 were selected for TCM physique identification, analysis the correlation between physical fitness and fatigue sub-health, and provide evidences for the early prevention of disease.

**Materials and methods**

Refer to the clinical guidelines of Chinese medicine on sub-health (Published in 2016), for the clinical diagnosis of fatigue sub-health. A total of 228 cases of fatigue sub-health patients were selected from January 2018 to December 2018 in the prevention and treatment center of the first affiliated hospital of Heilongjiang university of TCM, including 61 cases of males (26.75%) and 167 cases of females (73.25%). Referring to the standards of TCM constitution classification and determination, the TCM constitution identification scale was used to determine the types of constitutions.

**Results and discussion**

1. Gender and age characteristics of research data

   Among the 228 patients with fatigue sub-health, there were 61 males and 167 females, and the number of females was significantly higher than that of males, accounting for females with 73.25% (43.61±9.98) and male with 26.75% (43.54±14.28). From the perspective of age, young and middle-aged people aged 19-59 years are the majority, accounting for 92.98% of the total data.

   | Table 1  frequency distribution table of age group [case (%)] |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Gender          | Cases | 19-29 | 30-39 | 40-49 | 50-59 | 60 above |
| males           | 61    | 12    | 11    | 23    | 10    | 5        |
|                 | (26.75)| (5.26)| (4.82)| (10.09)| (4.39)| (2.19)   |
| females         | 167   | 23    | 41    | 57    | 35    | 11       |
|                 | (73.25)| (10.09)| (17.98)| (25.00)| (15.35)| (4.82)   |
| total           | 228   | 35    | 52    | 80    | 45    | 16       |
|                 | (100) | (15.35)| (22.81)| (35.09)| (19.74)| (7.02)   |

2. Distribution characteristics of single constitution

   Among the 228 patients with fatigue sub-health, 45 patients (19.74%) had a single constitution, and the top three constitutive types were Mild type with 16 patients (7.02%, 35.56%), Qi-deficiency type with 16 patients (7.02%, 35.56%), and Qi-depression type with 4 patients (1.75%, 8.89%). The proportion of Mild type and Qi-deficiency type in a single constitution is large, both accounting for 35.56% of the single constitution, and there are more men in Mild type than women, and more women in Qi-deficiency type than men.

3. Distribution characteristics of complex constitution

   There were 183 cases of complex constitution, accounting for 80.26% of the total data. The top three conformed constitution types were 4 complex constitutions with 40 patients (21.86%), 3 complex constitutions with 32 patients (17.49%) and 6 complex constitutions with 31 patients (16.94%). In the compound constitution, 45 patients aged 30-39 years (24.59%) and 66 patients aged 30-39 years (36.07%) accounted for a large proportion in the compound constitution.
4. Discussion

The data in this study were mainly young and middle-aged people aged 19-59 years, and the average age of medical treatment was about 43 years old, all of whom were mainly complaining of fatigue symptoms. The main causes of fatigue sub-health in this age group are increasing pressure of work and living environment, lack of physical activity, often staying up late and unreasonable eating habits. These factors are not conducive to the health of the body, resulting in the body of the population in a sub-health state. Existing studies also suggest that people in sub-health state may also have physical changes. The constitution analysis of fatigue sub-health population is carried out to study its related rules, and "pre-disease protection" is done to prevent the occurrence of various chronic diseases (such as chronic fatigue syndrome, hypertension, diabetes, etc.). We also found in clinic that the constitution of this population is mostly biased constitution, even a variety of complex constitution. This study preliminarily analyzed the distribution rule of constitution and the tendency of constitution imbalance in fatigue sub-health population, and provided the basis for predicting the development of disease and prevention of chronic disease.

Of the 228 cases, 45 cases (19.74%) were single constitution, and 183 cases (80.26%) were compound constitution. Compound constitution mainly consists of Qi-deficiency type, Yang-deficiency type, Qi-depression type and these types contained other constitutions. Young and middle-aged people are in the period of adequate human health, so the constitution is relatively simple, and the quality of more moderate. If accompanied by stay up late, partial diet, smoking and other bad living habits, will be tired, dark consumption of qi and blood, overwork is consumption of qi. Qi-deficiency type of the corresponding clinical manifestations. With today's work and life pressure increasing, emotional mood is out of tune, Qi-depression type of the population is gradually increasing. A variety of factors will lead to a large number of young and middle-aged people with complex physique, concentrated in the 30-49 years old. Among the study, 167 cases were female, accounting for 73.25% (43.61±9.98), and 61 cases were male, accounting for 26.75% (43.54±14.28). Research shows that fatigue sub-health patients are much more female than male, female physiological cycle often consume qi injury blood, qi and blood deficiency. Qi deficiency leads to the weakness of blood movement, while blood deficiency leads to the failure of regulating viscera, causing qi-depression, phlegm and dampness, dampness and heat, blood stasis and other pathological pathogenic factors.

This study conducted a preliminary analysis on the constitution types of fatigue sub-health population, indicating that the distribution of fatigue sub-health TCM constitutions in this region has a certain rule, mainly consisting of complex constitutions, mostly consisting of Qi-deficiency type, Yang-deficiency type, Qi-depression type and other constitutions. According to relevant literature and epidemiological survey, constitution is correlated with the formation of chronic diseases. By using the method of TCM constitution identification combined with thought of preventing diseases, we can find and improve physical biases as early as possible, design diagnosis and treatment schemes to prevent various chronic diseases in advance, so as to regulate and prevent
changes, and achieve targeted health intervention. Larger sample adjustment and detailed analysis of its rules should be carried out, so as to provide new ideas for the prevention and treatment of chronic diseases from the perspective of TCM physique.

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Clinical study on the treatment of functional dyspepsia in children by Jiao Sanxian

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Keywords: children's functional dyspepsia, jiao sanxian acupoint application.

1. Abstract

Children's functional dyspepsia is a specific digestive system disease of children. It is easy to cause digestive system symptoms such as anorexia and abdominal distention in children. It seriously affects the normal growth and development of children. It is a disease which has great influence on children. At present, there are no special effective treatment methods. Children's functional dyspepsia is one of the main causes of children's treatment. The symptoms include abdominal pain, loss of appetite, vomiting, anorexia and other symptoms of digestive function. It has a great influence on the normal nutrition intake of children, reduces the physical and intellectual development of children, and makes the quality of children's learning and the quality of life declines. The main cause of the children's functional dyspepsia is that the children are in the juveniles and juveniles, and the deficiency of the spleen and stomach is not perfect. It is easy to cause internal injuries and symptoms of abdominal distention. Western medicine believes that gastrointestinal motility deficiency, gastric acid secretion and Helicobacter pylori may be the main cause of functional dyspepsia in children.

Acupoint application is a special treatment of traditional Chinese medicine. It is guided by the theory of meridians and collaterals, and the same root and homology with acupuncture and moxibustion therapy. It stimulates certain acupoints by Chinese medicine to cause a benign reflex of nerve, regulates the human body to achieve a new dynamic balance and alleviates the corresponding symptoms. Acupoint application therapy is first found in "fifty-two disease Prescriptions"[1], which means that the Chinese medicine has been made into the medicine, acupoint and the affected area, and the effect of drugs, acupoints and meridians through the drugs, acupoints and meridians. And to achieve the purpose of treatment of a Chinese medicine external treatment. SanXian refers to the three drugs of divine comedy, malt and mountain planting at the same time. The combined use of the threeds can obviously enhance the digestive function. Therefore, in clinical practice, doctors often use the three drugs together and call them "Jiao SanXian". Moreover, Chinese medicine attaches importance to the influence of odors on patients and its role in the treatment of diseases. "Jiao Xiang can awaken the spleen and stomach". After being fry, the smell is pleasant and pleasant.
It improves efficacy and is easily accepted by patients. Hawthorn-flavor acid, stir fried sour taste weakened, easing irritation. So it is commonly used in the treatment of FD in children.

Based on the above premise, in order to evaluate the therapeutic effect of Acupoint Application on functional dyspepsia in children, the following clinical trials were designed.

2. Objective
In this study, the clinical scientific research methods and medical statistics software were used, and the standardized curative effect assessment of TCM and the equal evaluation scale were adopted to establish a standardized rigorous clinical efficacy experiment to explore the curative effect of the treatment of children's functional dyspepsia by using Jiao San acupoint application to treat children with functional dyspepsia, and Jiao San xian acupoint application was used to treat children's functional digestion. On the basis of the scientific and objective basis, we should explore the advantages and disadvantages of the sticking points of the Jiao San immortality, and prolong and enhance the therapeutic effect of "concentration" of the acupoint application of the Jiao three immortality.

3. Method
According to the standard, 65 children with functional dyspepsia were randomly divided into acupoint application group and drug group. There were 33 patients in acupoint sticking group and 32 in drug group. The standard reference was made to the diagnosis of children's anorexia and the diagnosis of TCM functional dyspepsia in Rome IV of functional gastrointestinal disease in 2016, which was formulated by the State Administration of traditional Chinese medicine (TCM) of 2002. The subjects aged 3 to 14 years of age, with a course of illness for more than 2 months, were divided into acupoint application group and drug group by the random number table method according to the proportion of 1:1. In the acupoint application group, the Jiao San Xian powder was applied for 2 weeks (Jiao three Xian Electric pulverized powder machine). The powder was made with honey before applying, and each of them contained 8g. Each time was applied for 8 hours, fixed with anti-allergic medical glue cloth, once every other day, 3 times a week for 14 days, and 14 days for the medicine group for 2 weeks (3 grains 1 times, 3 times a day, and a total of 14 days). To evaluate the clinical efficacy and the evaluation standard of TCM syndrome of functional dyspepsia and its clinical effect.

4. Result
Referring to the "Guiding Principles for Clinical Research of New Chinese Medicine" issued by the State Administration for drug administration in 2002, 5 main symptoms of traditional Chinese medicine (appetite, facial color, symptoms of urine, abdominal distention, and irritated symptoms) were observed and graded. Before and after treatment, the acupoint sticking group and the drug group were compared with each other's TCM syndrome score, and the clinical symptom score of the two groups after treatment was compared. After treatment, the scores of clinical symptoms in the acupoint application group were significantly lower than those before treatment (P < 0.05), suggesting that the acupoint application therapy of Jiao San immortality had a certain effect on improving children's functional dyspepsia. After treatment, the scores of TCM clinical symptoms in acupoint application group and drug group were compared, and the scores of acupoint application group were significantly lower than those in the drug group, the difference was statistically significant (P < 0.05). The above results suggest that the main symptoms of children's functional dyspepsia can be alleviated by the acupoint application and drug therapy, of which the improvement of the main symptoms of the functional dyspepsia in children is better than that of the drug therapy. The two groups of curative effect analysis showed that after treatment, two groups of TCM clinical symptoms were compared, 3 cases were cured in acupoint application group, 22 cases were effective, 6 cases were effective, 2 cases were invalid, total effective rate was 93.94%, drug group recovered 1 cases, significant effect 6 cases, effective 20 cases, invalid 5 cases, total effective 84.38%, two group effect comparison, the difference has statistical significance (P < 0.05). Therefore, Jiao three acupoint application therapy and drug treatment can play a certain effect on children's functional dyspepsia.

5. Conclusion
In this study, a total of 65 subjects were included in the treatment of ZhongWan acupoint with three acupoints, and compared with the oral administration of Jiang Zhong Jianwei Xiaogun tablet. The curative effect scores of the two groups were compared before and after the treatment. The results of the study showed that the clinical symptom scores of the two groups were compared before and after the treatment, including food, appetite, facial color, urination, irritated anxiety and abdominal distention. The difference was statistically significant (P < 0.05). Sexual dyspepsia has a certain therapeutic effect. The clinical symptom scores of acupoint application group and drug group after treatment were compared. The results showed that the scores of the acupoint application group were significantly lower than those of the drug group, the difference was statistically significant (P < 0.05). The effect of Jiao San Xian Acupoint Application on the main symptoms of functional dyspepsia in children, including food, appetite, face color, urination, irritated anxiety and abdominal distention, is better than drug therapy.

Reference

The mechanisms of Parkinson's disease animal models and research progress of new effects of TCM in treating Parkinson's disease

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Abstract
Parkinson's disease (PD) is the second most common neurodegenerative disorder of the elderly, however, its pathogenesis has not been fully understood. In the past 20 years, the use of animal models has made a breakthrough in PD research, which provides great help for a deeper understanding of the pathogenesis, etiopathology and molecular mechanism of PD. It is necessary to use the animal model of PD to further explore the pathogenesis and treatment of PD. This article reviews the literatures related to the mechanisms of PD animal models and the new effects of some traditional Chinese medicines in animal models of PD published in recent years. On this basis, exploring and confirming the targets of these drugs and their neuroprotective mechanisms can provide a theoretical basis for the clinical treatment and drug screening of PD.

Key words: Parkinson's disease; new effects of TCM; animal model.

PD is the second most common neurodegenerative disorder of the elderly after AD. A major pathological features of PD is the loss of DAergic neurons in the substantia nigra and the appearance of cytoplasmic inclusion LB. PD characterized with consequent extrapyramidal motor dysfunction, like bradykinesia, static tremor and rigidity, leads to a significant loss of quality of life. At present, the etiology and pathogenesis of PD are still not very clear. Previous studies have shown that PD may be the result of interaction between genetic and environmental factors. It is necessary to use animal models of PD to further explore the pathogenesis and treatments of PD.

The earliest PD model was established by using reserpine, followed methamphetamine model, 6-hydroxydopa (6-OHDA) model, 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) model and rotenone model while 6-OHDA model and MPTP model are widely used among them. Rotenone, as a novel induction drug, has been widely concerned as a model inductive agent to produce LB. The genetic creation of a PD model is noted to reveal the molecular mechanism that causes DA neuron death and to identify potential therapeutic targets. The mechanisms of PD animal models and research progress of some new effects of TCM in treating PD in recent years are reviewed in detail.
1. Chemical drug model

6-OHDA model  The chemical structure of 6-OHDA is similar to that of DA, which is mistaken as a neurotransmitter in the brain and ingested into neurons, resulting in the death of DA neurons. The mechanism of action is as follows: (1) direct damage of catecholamine neurons or by competition the uptake of DA neurons; (2) formation of hydroxyl radicals caused damage; (3) as a blocker of mitochondrial respiratory chain destroy the mitochondrial function of DA neurons. It can’t cross the BBB, so must be injected into the brain. Ungerstedt injected 6-OHDA into the intracranial SNpc of rats, causing loss of tyrosine hydroxylase (TH)-positive neurons in the SNpc and the TH “fibers in the striatum³⁸, successfully establishing PD model. 6-OHDA is directly administrated to the central NSDA pathway, mainly in rodents. The unilateral PD rat model is often established by injection of 6-OHDA into one side of the striatum.

This model does not mimic the major clinical manifestations of PD patients or the pathological characteristics of LB. However, the drug induced rotational behavior can be carried out by quantitative evaluation, so it is extensively used as one of the most widely used PD model.

Huang Liping et al² used the following method: The SD rats brain located in the medial forebrain bundle (MFB) parts were injected 6-OHDA made for PD model rats. Xingnao Chuchan Decoction was taken by intragastric administration for 30 days. They observed each groups of AIM scores (mouth face, axial and forelimbs) within five minutes, and calculated coefficient of liver and kidney and HE staining which to observe the striatum tissue pathological morphology, then came to the conclusion: Xingnao Chuchan Decoction has an effect on enhancing curative effect and reducing side-effect on 6-OHDA induced PD model in rats.

2. Biological toxicity model

2.1 Model of MPTP  MPTP can penetrate the BBB easily. Coming into brain, it converts to methylphenylpyridine ion(MPP⁺) under the action of the monoamine oxidase type B (MAO-B), and MPP⁺ has strong toxic effect. With similar chemical structure to DA, it can be actively uptaken by DAergic neurons, through the following mechanisms: (1) MPP⁺ inhibits activity of mitochondrial complex I blocking mitochondrial oxidation respiratory chain, causing the depletion of ATP; (2) Oxygen free radical generation increases and content of free radical scavenger glutathione decreases; (3) the increased activity of NOS leads to the growth of intracellular NO content and so on³⁵, leading to the degeneration and death of DAergic neurons. MPTP model is especially suitable for mice and non-human primates, nevertheless, rats are not sensitive to MPTP. The routes of administration include subcutaneous, intraperitoneal, intravenous, arterial, or intramuscular injection. PD symptoms appear and DAergic neurons were selectively injured in the MPTP model, but there is no characteristic pathological change in LB. The primate PD model induced by MPTP is stable and similar to human PD in symptoms, biochemistry, pathology and drug treatment response (including adverse reactions), becoming the most ideal model for PD research. However, the mouse MPTP models are often used for their economy and convenience.

Pennapa Chonpathomkunlert et al³⁶ performed this experiment: Male C57BL/6 mice treated with MPTP were orally dosed with A. graveolens extract daily for 21 days. Behavioral tests, including a rotarod apparatus, a narrow beam test, a drag test, a grid walk test, a swimming test, and a resting tremor evaluation, were performed. Thereafter, the mice were sacrificed, and MAO-B activity, lipid peroxidation activity, and superoxide anion levels were measured. IHC staining of TH was performed to identify DAergic neurons. They speculated that A. graveolens ameliorated behavioral performance by mediating neuroprotection against MPTP-induced PD via antioxidant effects, related neurotransmitter pathways and an increase in the number of dopaminergic neurons.

2.2 Rotenone model  Rotenone can easily pass through the blood-cerebrospinal fluid barrier and biofilm, and does’t requiring DA transporters to transport it. Rotenone can selectively destroy dopaminergic neuron³⁷, and reduce the number of TH positive cells, leading to PD symptoms. In terms of pathogenesis, behavior change, biochemistry, pathology and other aspects, it can better simulate the relevant characteristics of human PD, which has unique value for the study of the relationship between environmental factors and PD etiology, pathogenesis. It’s characteristics of
chronic and progressive course are suitable for the study of neuroprotective therapy of PD. The inclusion bodies become an effective tool to study the formation mechanism of LB. Combining TCM with modern science and technology by researches of utilizing PD animal models, exploring and confirming the targets of therapies and their neuroprotective mechanisms can provide a theoretical basis for the clinical treatment of PD and drug screening. It is believed that take full advantage of the tool-PD animal models, with the gradual deepening of the researches on the pathogenesis of PD, the therapeutic strategy of PD will be improved markedly.

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Clinical observation of traditional Chinese medicine enema combined with acupoint sticking in ventilator-associated pneumonia

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Abstract
A one-year clinical observation was performed on patients with ventilator-associated pneumonia in the Department of Critical Care Medicine of the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine. We compared the symptom score, mechanical ventilation time, average hospitalization day and statistical analysis. The specific contents of traditional Chinese medicine enema group, acupoint sticking group and traditional Chinese medicine enema combined with acupoint sticking group are presented in this paper. The results showed that patients with traditional Chinese medicine enema combined with acupoint application group had lower symptom scores, shorter mechanical ventilation time, and less average hospital stay in ICU. Traditional Chinese medicine enema combined with acupoint application is a nursing therapy with traditional Chinese medicine characteristics, which is worthy of being widely used.

Key word: Chinese medicine enema, Acupoint application, Ventilator-associated pneumonia, Clinical Observation

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Ventilator-associated pneumonia is a new type of pulmonary infection after 48 hours of mechanical ventilation. It is the most common type of hospital-acquired pneumonia. It is common in hospital intensive care unit, tracheal intubation, and long-term ventilator-assisted breathing. Based on different diagnostic criteria, economic levels in different regions, hospital types, etc., the incidence of ventilator-associated pneumonia ranges from 9.00% to 27.00%, and the mortality rate is as high as 20.00%-70.00%, when accompanied by drug-resistant infections and inappropriate antibacterial In the case of drug use, the mortality rate is even higher, even if it is alive, it is accompanied by a prolonged mechanical ventilation time and hospitalization days and a significant increase in medical costs. Therefore, it is particularly important to find effective treatment and preventive measures.

**Objective**

Based on the basic theory of traditional Chinese medicine, "Lung and large intestine phase", combined with the characteristics of traditional Chinese medicine nursing in our hospital, explore the nursing effect of traditional Chinese medicine enema combined with acupoint sticking on ventilator-associated pneumonia, aiming to find a simple and effective nursing method to improve The quality of life of patients provides a basis for the promotion to hospitals at all levels.

**Materials and methods**

1. **Grouping**
   102 patients with ventilator-associated pneumonia in the First Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine were selected as subjects. The enrolled patients were screened strictly according to the inclusion criteria and exclusion criteria. According to the principle of randomized control, the subjects were randomly divided into Chinese medicine enema group and acupoints. The application group and the traditional Chinese medicine enema combined with the acupoint application group.

2. **Intervention content**
   1. **Chinese medicine enema group**: 5 to 7 o'clock every day, for the patient to carry out Chinese medicine enema.
   2. **Acupoint application group**: 3 to 5 points per day, for acupoint application (densation, lung sputum, sputum acupoints) for patients. The application time is two hours.
   3. **Chinese medicine enema combined with acupoint application group**: daily from 3 to 5 o'clock, for patients with acupoint application (densation, lung sputum, sputum acupoints). The application time is two hours. 5-7:00, the Chinese medicine enema for the patient.

   **Note:** Acupoint sticking prescriptions are self-made for our hospital: rhubarb, fried mustard, vinegar, fuji, asarum, fried peach kernel; Chinese medicine enema is self-made for our hospital: rhubarb, Alisma, Shichangpu, Magnolia, and grass fruit.

   According to the meridian flow, the sputum (3-5:00) corresponds to the lungs and sputum (5-7:00) corresponding to the large intestine.

2. **All three groups were given routine treatment, nursing and health education.**

**Results and discussion**

The results showed that the evaluation indexes of traditional Chinese medicine enema combined with acupoint application group and Chinese medicine enema group and acupoint application group were statistically significant. Patients with traditional Chinese medicine enema combined with acupoint application group had lower symptom scores, shorter mechanical ventilation time, and less average hospital stay in ICU.

Acupoint sticking therapy is a kind of TCM treatment that applies Chinese herbal medicine to acupoints, so that the active ingredients of the drug penetrate into local skin muscles, stimulate acupuncture points and meridians, thereby achieving disease prevention and treatment. Acupoint sticking is increasingly recognized by patients because of its "green", long-acting, and painless effects.

The traditional Chinese medicine enema method, also known as enema therapy, refers to an external treatment method in which a traditional Chinese medicine is selected under the guidance of the basic theory of Chinese medicine, and is infused into the intestine in the form of a liquid.
Efficacy evaluation of Xiao Er Zhi Yang Wai Xi Recipe in the treatment of non-specific infantile vulvovaginitis

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Abstract

Objective: To observe the clinical efficacy of traditional Chinese medicine fumigation and washing in the treatment of non-specific infant vulvovaginitis. Methods: 100 children with vulvovaginitis were randomly divided into treatment group and control group. 50 patients in each group, both groups were given attention to diet, pay attention to hygiene, and the treatment group was treated with pediatric antipruritic external washing and fumigation, and the control group was given corresponding antibiotic ointment (erythromycin ointment, metronidazole ointment). Clinical efficacy was evaluated 1 week after treatment, and the recurrence rate was compared at follow-up. Results: After 1 week of treatment, the total effective rate was 96% in the treatment group and 82% in the control group. The recurrence rate was 4.5% in the treatment group and 15% in the control group. The differences were statistically significant (P<0.05). Conclusion: The clinical efficacy of traditional Chinese medicine fumigation and washing in the treatment of infantile vulvovaginitis is significantly better than antibiotic ointment (erythromycin ointment, metronidazole ointment). The recurrence rate of the control group is lower than that of the treatment group.

Key words: Chinese medicine fumigation; Infant; Non-specific vulvovaginitis

Traditional Chinese medicine fumigation and washing treatment of this disease is simple, simple to operate, no medication and pain, and also avoids the abuse of antibiotics to produce resistance. This method is easier for children and parents to accept.

In this study, Professor Yang Lizhen used 50 cases of non-specific infantile vulvovaginitis to treat 50 cases of non-specific infantile vulvovaginitis. The effect is remarkable.
Objective
To observe the clinical efficacy of traditional Chinese medicine fumigation and washing in the treatment of non-specific infant vulvovaginitis.

Materials and methods
100 children with vaginal vaginitis who were diagnosed as pediatric outpatients and diagnosed as non-specific infants were selected. According to the random number table, it was simply randomly divided into treatment group and control group.

Both groups were given general treatment, paying attention to diet and hygiene.

Treatment group: the Xiao Er Zhi Yang Wai Xi Recipe: ku shen, baixianpi, difuzi, baitouweng, cijili each 20g, shengbaibu, zihuadiding, pugongying15g, fangfengof 10 g. The medicine is placed in a gauze bag and soaked in water for 30 minutes, and boiled for 45 minutes. When the steam reaches the level that the skin can tolerate, take out the gauze bag and take out the syrup and place it on the affected part for 15-20 minutes. When the water temperature is flat, rinse with the medicine. Vulva, finally wash off the syrup with water to keep the vulva dry and clean. 1 dose every 2 days, add water and fry the next day. Once a day.

Control group: local symptomatic application of antibiotic ointment for etiological treatment.

Both groups were treated for 1 week.

Results and discussion
After 1 course of treatment, the total effective rate of the treatment group was 96%, of which 15 were cured, 25 were markedly effective, 8 were effective, and 2 were ineffective. The total effective rate of the control group was 82%, of which 8 were cured, 16 were markedly effective, 17 were effective, and 9 were ineffective. The difference was statistically significant (P<0.05). One month after treatment, the recurrence rate was 3% in the treatment group. 30 patients were followed up and 1 patient relapsed. The recurrence rate was 10% in the control group. 30 patients were followed up and 3 patients relapsed.

The analysis of clinical observation results showed that all children with vulvovaginitis who were in accordance with the syndrome of dampness and heat syndrome of Chinese medicine, or those with vulvovaginitis symptoms, could be treated with this external fumigation. It can inhibit the growth of a variety of pathogenic bacteria, significantly improve local pathological stimulation, relieve symptoms and enhance local immunity [1]. In the clinical observation, most children had obvious symptom improvement on the third day of treatment, no vaginal and genital itching, the color of the secretion became normal, and the secretion was reduced. The clinical effect was significantly higher than that of the control group.

Based on a solid theoretical basis, the Xiao Er Zhi Yang Wai Xi Recipe has obtained considerable and definite curative effect in clinical practice and laid the foundation for reducing the recurrence rate.

References:

Effect of Acupuncture Cooperated with Low-frequency Repetitive Transcranial Magnetic Stimulation on Chronic Insomnia: A Randomized Clinical Trial

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Abstract
This study evaluated the efficacy of acupuncture combined with low-frequency repetitive...
transcranial magnetic stimulation (rTMS) in treating patients with chronic primary insomnia. Seventy-six patients with chronic primary insomnia were randomly assigned to two groups: treatment group and control group (n=38 per group). The treatment group received acupuncture combined with rTMS therapy, while the control group received acupuncture alone, twice a day for 28 days. The main outcome index was Pittsburgh sleep quality index (PSQI), and the secondary outcome index was polysomnography parameters and a brief table of WHO quality of life measurement scale (WHOQOL-BREF). Further, the relapse within 2 months after respective treatments were also measured. After treatment, rTMS treatment significantly improved PSQI index (p < 0.05) compared with the control group, rTMS treatment group was more favorable in improving stage III sleep and REM sleep cycle (p < 0.05), and rTMS treatment group improved WHO quality of life (p < 0.05). In addition, the relapse were also the lowest in rTMS treatment group. Overall, the rTMS group had the lowest recurrence rate. In conclusion, rTMS treatment is more advantageous than single acupuncture in improving the sleep architecture. rTMS significantly reduced the level of physical arousal and provided better long-term treatment outcomes, while the rTMS treatment group had better quality of life.

Key words: Chronic primary insomnia; Low-repetitive transcranial magnetic stimulation; Clinical study

Insomnia is the subjective feeling of unsatisfactory sleep quality caused by sleep initiation or maintenance dysfunction, such as difficulty in falling asleep, not deep sleep, multiple dreams, restless sleep, wake up fatigue and discomfort, under the circumstance of sufficient sleep opportunities and environment, which can affect the daytime function and social activities of patients. The incidence of insomnia is increasing in the world, and the epidemiological survey shows that the incidence of insomnia in adults is about 30%. Sleep disorders are considered to be closely related to fatigue, mental stress and personality, and can induce complications of mental disorders such as hypertension, stroke, anxiety and depression. Long-term insomnia can affect physical function, reduce immunity and aggravate the acquired risk of other diseases. At present, the main treatment for insomnia is psychotherapy supplemented by drug therapy, but due to the poor compliance of patients, western medicine short-effect, excessive sedation, addiction and other problems, non-medication treatment is very valuable. At present, repetitive transcranial magnetic stimulation (rTMS) is being promoted as a new non-medication therapy.

Objective
Low-frequency transcranial magnetic stimulation with acupuncture for primary insomnia was studied to assess the effects of this treatment on sleep quality and arousal levels, as well as the long-term effects of treatment.

Materials and methods
The 76 patients were recruited from the outpatient and inpatient department of rehabilitation department of the first affiliated hospital of Hei long jiang university of traditional Chinese medicine from September 2017 to March 2019, they were divided into treatment group and control group according to the random number table, with 38 patients in each group. The inclusion criteria were the following: patients were to meet the diagnostic criteria of chronic primary insomnia as per “The Diagnostic and Statistical Manual (DSM-IV) of Mental Disorders” by American Psychiatric Association, and the score of sleep scale was > 6 points. The monitoring results of polysomnography at night showed that the time of sleep introduction was > 30 min, the total sleep time was < 6 h, and the sleep efficiency was < 80%. The exclusion criteria are: pregnant, nursing or expectant mothers; abuse of related drugs within two weeks prior to treatment or during the study period; diagnosis of other serious organic diseases.

Treatment
Acupuncture group: The main acupoints were Baitui(DU20), Sishencong(EX-HN1), Yintang(DU29), bilateral Annaian(EX-HN22), bilateral Shenmen(HT7), bilateral Neiguan(PC6). Acupuncture was performed using Hwato sterile acupuncture needles(SuZhou Medical Equipment Factory, SuZhou, China) with the dimensions of 0.25mm×40.00mm, twice a day for 28 days. Needles
were maintained in place for 30 minutes. rTMS group: Under the acupuncture treatment, the Rapid 2 rTMS stimulator was used to treat the rTMS patients. Stimulation was performed in the right dorsolateral prefrontal cortex (DLPFC). The following stimulus parameters were used: the stimulus frequency was 1Hz, the motion threshold of 80% of the stimulus intensity, and the total stimulus time was 30 minutes. Treatment course is the same as acupuncture group. Pittsburgh sleep quality index (PSQI), WHO quality of life measurement scale and sleep quality were used to monitor sleep using Compumedics (Merbourne, Australia). All patients were followed up by telephone to assess the recurrence rate.

Results and discussion

Both groups improved PSQI scores, but the TMS treatment group showed the most favorable changes in these parameters after treatment (p <0.05 compared with single acupuncture). Results analysis showed that rTMS treatment improved stage III and REM sleep best compared with acupuncture alone (p <0.05 compared with single acupuncture). Meanwhile, the rTMS treatment group improved WHO's quality of life (p <0.05). In addition, follow-up results showed that the rTMS group had the lowest recurrence rate.

RTMS stimulation with different frequency has different effects on cortical metabolism and cerebral blood flow. Low frequency rTMS (1-5 Hz) can reduce the level of metabolites in local brain tissues. During the treatment of chronic insomnia, low-frequency rTMS may have the following mechanisms: First, neurophysiological mechanism: low-frequency rTMS directly hyperpolizes nerve cells of DLPFC through pulsed magnetic field and inhibits the over-excited state of cerebral cortex. Second, neurochemical mechanism: low-frequency rTMS stimulates DLPFC, thereby increasing the secretion of pineal melatonin and the concentration of brain serotonin and norepinephrine. These substances play an important role in maintaining the body's normal sleep-wake cycle and physiological functions. Neural regeneration mechanism: low-frequency rTMS promotes hippocampal neurogenesis, thus improving chronic insomnia and reducing hippocampal nerve injury and loss.

Our study shows that the rTMS group has higher PSQI than the acupuncture group, which proves that it can improve the overall level of sleep, and the rTMS group is more favorable for the stage III and REM sleep. The improvement of WHOQOL-BREF score in the rTMS group proved that the group had better quality of life improvement.

In conclusion, rTMS provides a new safe and effective physical therapy for chronic insomnia. RTMS therapy can replace sedative and hypnotic drugs, thereby reducing the incidence of drug abuse or dependence on sedative and hypnotic therapy.

References:
Clinical observation of acupoint embedding on constipation after stroke

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Research direction: Acupuncture and rehabilitation treatment of senile dementia.

Abstract: Objective: To observe the therapeutic effect of acupoint embedding on patients with constipation after stroke. Methods: 82 patients were randomly divided into two groups: observation group and control group, 41 cases each. There was no difference in clinical general data between the two groups. The observation group used Zhongwan, Tianshu, Guanyuan, and Dachangshu as the main points, with the following sputum, Shangjuxu point, Zusanli point, and then add and subtract with the disease. Embed the line once every 15 days, 2 months for a course of treatment. The control group was treated with traditional Chinese medicine. According to the difference between the secret and the secret, the Maziren pill and Jichuan fried were used respectively. The dosage depends on the actual condition of the patient and is treated for 2 months. Results: The total effective rate was 85.37% in the observation group and 63.41% in the control group. The clinical efficacy of the two groups was statistically significant (P<0.05). Conclusion: Acupoint embedding therapy is more effective than traditional Chinese medicine in treating constipation after stroke. Acupoint embedding is easy to operate, patient compliance is good, and has broad prospects.

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Syndrome Differentiation and Treatment and Clinical Experience of Lingguizhugan Decoction

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Abstract: Lingguizhugan Decoction is a representative prescription of Linggui Prescription, which is derived from Synopsis of Golden Chamber. This method warms yang to dissipate qi, invigorates spleen and eliminates dampness. Based on the comprehensive inheritance of the thought of syndrome differentiation of TCM and the flexible application of treatment according to syndrome, this paper provides a new thinking mode for clinical application of Lingguizhugan Decoction in order to better guide clinical practice.
Key words: Lingguizhugan Decoction; Syndrome Differentiation; TCM; Linggui Prescription
Lingguizhugan Decoction is one of the most commonly used classical prescriptions in clinic. If the spleen fails to function, the water will rush upward; Yang deficiency can't rise up; Orifices will be blinded by water instead, causing dizziness; Throughout the past dynasties, doctors who belong to the syndrome of spleen failing in transportation and yin dampness congealing can boldly use it in clinic, and the curative effect is quite good. How to apply the classical prescriptions widely, make the differentiation of symptoms and signs as the treatment criterion, change frequently, use flexibly, and combine the rule of syndrome and treatment with personal clinical experience, this paper will do the following elaboration.

1 Syndrome Differentiation and Treatment
The pathogenesis is deficiency of yang qi in the heart, spleen and kidney. The heart belongs to fire and resides in the chest. It can regulate Yang while restraining yin. Heart yang is insufficient, and the yin cannot be subdued.,can lead to water and qi ascending counterflow.The spleen qi deficiency can not control water, and the water can not be restrained and upstream is affected. The kidney dominates the water while the kidney yang is insufficient. Inhibited qi transformation, it can not let the water fall, and it can also lead to water and qi ascending counterflow.

2 Application Status
Lingguizhugan Decoction is a good prescription for resolving water, qi and phlegm. It is widely used in modern clinic. It can be used in congestive heart failure, coronary heart disease, rheumatic heart disease, myocarditis, asthma in children, chronic bronchitis, pertussis, bile reflux gastritis, epigastralgia, irritable bowel syndrome, gastroptosis, urinary calculi, chronic disease. Glomerulonephritis, nephrotic syndrome, Meniere's syndrome, hydrocephalus, vertebrobasilar ischemic vertigo, neurasthenia, simple systolic hypertension in the elderly, pelvic effusion, acute polyhydramnios and other spleen deficiency with water retention.

3 Clinical Experience

3.1 Dizziness
Dizziness is related to people's viscera, insufficiency of kidney yin, water does not contain wood; Spleen yang is not vigorous, transportation and transformation is out of order; ascendant hyperactivity of the liver yang ; turbidity rising and falling disorders, accumulation of dampness and phlegm will be dizzy. Usually, deficiency of spleen and kidney, phlegm dampness and ascendant hyperactivity of liver-yang are the main causes. Poria cocos and Atractylodes macrocephala can play the role of invigorating the spleen and resolving phlegm and retained fluid, eliminating the hydrops in the inner ear and the edema of the labyrinth; Cinnamomum cassia can dissolve qi and diffuse water, play the role of vasodilator, improve the circulation of the inner ear; Licorice can replenish qi and moderate. Therefore, these drugs can eliminate edema, improve the inner ear circulation disorder and regulate the stress response of autonomic nerve.

3.2 Insomnia
All the five organs have insomnia. The etiology and pathogenesis of insomnia are quite complex. Generally speaking, the disorder of yin and yang in the viscera and organs of the body, the disharmony of qi and blood, and the disturbance of the mind. Due to the influence of living environment, people in modern cities often have insufficient ascension and dissipation of yang qi, and the factors of thinking about qi nodule increase. For a long time, they hurt the spleen, spleen deficiency does not change, gather dampness and generate phlegm, phlegm and turbidity obstruct, clear yang does not rise, turbidity does not fall, resulting in dizziness and insomnia. Yang deficiency and dampness can cause imbalance between yin and yang, leading to insomnia. Poria cocos is the main medicine for phlegm. With Cinnamomum cassia twig, it can not only warm the yang for drinking, but also change the gas for water. It is compatible with Poria cocos. It has the wonderful function of warming and infiltrating. It is supplemented by Atractylodes macrocephala to invigorate the spleen and dry the dampness, and remove the spleen vigorously and wetly. So that with licorice to replenish the middle qi ,osmanthus branch has the magic of pungent sweet resolve yang . The combination of various medicines has the function of warming yang and dispelling dampness, so as to achieve the goal of "yin and yang in equilibrium, spirit is the cure".
3.3 Running Piglet

The syndrome differentiation and treatment of Running Piglet basically follow the treatment method of *Synopsis of Golden Chamber*, which is divided into two basic syndromes: emotional internal injury, liver and kidney qi inversion, heart and kidney yang deficiency and cold water adversity. Poria cocos is the main medicine in the running piglet, tastes sweet , suspension of the chest and hypochondrium , anxiety and panic, accumulate pain below the heart, cold and heat, irritation and full of cough. Cinnamon twig is mainly used for coughing and inversion of upper qi, stagnation of qi, laryngeal impediment and vomit , with Poria cocos, unblock yang and resolve water, heart kidney interaction, in order to stop qi ascending counterflow. Atractylodes macrocephala can invigorate the spleen and dry dampness, treat the source of phlegm, eliminate phlegm in order to remove excessive expenditure. Glycyrrhiza uralensis has a moderate rapid , but it also harmonizes the various medicines, and plays the role of pungent sweet resolve yang with Guizhi.

4 Conclusion

Linggu Zhugan Decoction is widely used in the treatment of various water and gas diseases, including the highest yang bowel pattern, because of its rigorous compatibility and definite curative effect. Its etiology is mostly characterized by the stagnation of water pathogens, but the invasion of viscera is different, the symptoms are different, so the prescription of medication is also different. In clinical application, we should be realistic in differentiation of symptoms and signs, carefully consider medication, properly expand the scope of application, flexibly add and subtract, so as to improve the accuracy of selection.

References

**Mechanism of Guizhi Fuling decoction in treating cold coagulation-type endometriosis**

Zhiheng Jiang¹,Yangdong Xia², Hui Yao³

**Abstract**

Endometriosis (EMs) mainly occurs in the female reproductive system. Although this disease presents benign morphological manifestations in pathology, it has the characteristics of planting, invasion, metastasis and hyperplasia of malignant tumors, and continues to aggravate pelvic adhesions,pain, infertility is the main clinical manifestation of patients. Clinically, Guizhi Fuling decoction has a good effect in the treatment of cold coagulation-type EMs,and it increased pregnancy rate obviously.Decreased expression of HOXA-10 may be directly or indirectly related to infertility associated with endometriosis in men and women. In this paper, we will study the effect of endometrial receptivity of cold coagulation-type EMs that Guizhi Fuling decoction intervenes, and then it is speculated that the mechanism of Guizhi Fuling decoction in treating EMs. This paper detects the
levels of endometrial receptivity gene HOXA-10 and integrin by FQ-PCR and Western Blot. Analysis of the experimental group and the control group showed that the effect of Guizhi Fuling decoction on the expression of endometrial receptivity gene.

**Key words:** EMs, HOXA-10, Guizhi Fuling decoction

Endometrial tissue (gland and stroma) appear outside the uterus, mostly in the pelvic organs and wall peritoneum. In the study of endometrial receptivity in infecund women, αvβ3 integrin and HOXA-10 gene mRNA expression levels were low[2].

The clinical treatment of endometriosis is nothing more than traditional Chinese medicine, acupuncture, and hormonal drugs, but the side effects of hormonal drugs cannot be effectively controlled. Therefore, in recent years, the treatment of traditional Chinese medicine has become more and more extensive, among which Guizhi Fuling decoction is a representative. It has the effect of promoting blood circulation, dissipating phlegm and eliminating diseases. It is used for women with a diseased block, or blood stasis, closed abdominal pain, abdominal pain, postpartum lochia, these are suitable for women with symptoms, blood stasis, abdominal pain, postpartum lochia, which corresponds to the cause of cold coagulation type endometriosis. In terms of genes, Guizhi Fuling decoction affects the expression of HOXA-10, which may be the mechanism of treatment for patients with endometriosis and infertility.

**Objective**

To study the possible therapeutic mechanism of Guizhi Fuling Decoction in the treatment of cold coagulation-type endometriosis by compare the experimental results of HOXA-10 and αvβ3 integrin expression levels in each group. To find a key target that can block the formation of emerging markets, and provide a scientific basis for the treatment of emerging markets by Chinese medicine.

**Materials and methods**

180 female Wistar rats were randomly divided into five groups: A. EMs model group; B. Guizhi Fuling decoction low dose (GZ low) group; C. Guizhi Fuling decoction medium dose (GZ medium) group; D. Guizhi Fuling high dose (GZ high) group; E. positive control group, another 30 rats only open surgery, do not peel the endometrium, close the abdomen, the rest of the operation is normal, as the sixth group, F. Sham operation group.

EMs model group and sham operation group were given double distilled water according to body weight. The western medicine group was given danazol suspension by danazol group, GZ low, GZ medium and GZ high were administered according to the effective component yield and body weight, and each group was given once a day for 4 weeks.

After 4 weeks of administration of sex hormones, serum ELISA was used to detect E2 and P levels. Immunohistochemistry was used to determine the expression of hormone receptor (ER) and progesterone receptor (PR) in rat ectopic endometrial tissues, and simultaneously the uterus was dissected, the endometrium was separated, and the endometrial tissue was placed in isooamyl acetate for 3 h. The critical point was dried, the sample was pasted, the silver powder conductive adhesive was applied, and the sample was metal coated with a vacuum coater. To establish a "sex hormone-key gene- ultrastructure" network.

Finally, through laboratory data analyzes the possible mechanism of Guizhi Fuling Pill in the treatment of cold coagulation-type endometriosis

**Results and discussion**

Compared with the blank control group, the HOXA-10 gene expression was significantly lower in the model group, and the danazol-positive drug administration group had a significantly higher callback than the surgical control group. The gene expression of each group was significantly higher than that of the model group, indicating that EMS was The expression of genes had significant differences.

The low, medium and high doses of GZ had different degrees of callback effect in the model group, which was statistically significant, indicating that the treatment of EMS by GZ is a key gene. one. Compared with the blank control group, the expression of integrin αv and β3 in the model group was significantly lower than that in the control group (P<0.01), the low, medium and
high dose groups of GZ, and the danazol-positive group for αv and β3. The genes have different degrees of callback (P<0.05, P<0.01), suggesting that integrin αv, β3 is closely related to the occurrence and development of EMS.

As a result, this experiment shows that the expression of HOXA-10 and integrin αv and β3 will change significantly when GZ interferes with cold coagulation-type EMs, suggesting that the mechanism of action may be through the regulation of HOXA-10 and integrin αv and β3 expression to achieve treatment effect.

Thus, Chinese medicine treatment of endometriosis can be studied with HOXA-10 and integrin αvβ3 as a target, and as a clinical treatment.

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Effect of scapula stability training on shoulder impact syndrome

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Abstract
Subacromial impingement syndrome (SIS) is a common shoulder disease. The clinical symptoms are shoulder pain and dysfunction. According to statistics, 44%~65% of shoulder pain in clinical patients is derived from SIS. The causes of SIS include abnormal subacromial gap, abnormal shoulder shape and abnormal shoulder peak index.

Key words: Shoulder impact syndrome; Scapular stability; Joint mobilization

The shoulder joint is the most active joint of the human body. It can provide various requirements for daily life. However, the range of activities is large and the risk factors are hidden. It is a good site for musculoskeletal diseases, often manifested as pain in the shoulders. Restricted activities, etc. In the movement of the shoulder joint, the shoulder blade acts as a "base". The muscle attached to the scapula is connected to the structure of the clavicle, thorax, spine, and tibia. The stability of the scapula is closely related to the movement of the structure around the shoulder joint.

In 1972, Neer first proposed the concept of SIS. When the shoulder joint was lifted (forward flexion, abduction) and internal rotation, the large tibial tuberosity would move upward, causing the large nodule and the shoulder peak at the upper part. [6]. Long-term repeated impacts can lead to acromion bursitis, deltoid bursitis, rotator cuff injury, supraspinatus tendinitis, and biceps femoris. There are many biomechanical reasons for SIS. Abnormal subacromial space, abnormal shoulder shape, shoulder muscle imbalance, abnormal shoulder scapular movement, and uneven tension before and after shoulder capsule may be the cause of SIS.

Objective
The purpose of this paper is to study the effects of scapula stability training on SIS.

Materials and methods
Thirty patients with shoulder-impact syndrome who met the inclusion criteria were randomly divided into treatment group (n=15) and control group (n=15). The control group received conventional joint mobilization combined with ultrasound treatment, once a day, treatment time 2w. The treatment group increased the stability of the scapula based on the control group. Before and
after treatment, the shoulder joint ROM and the University of California at Los Angeles shoulder rating scale (UCLA) were used to assess the dysfunction of the shoulder joint.

**Results and discussion**

In this study, the joint mobility of the control group was improved after treatment ($P<0.05$), and the UCLA score was also higher than that before treatment ($P<0.05$). The treatment group increased the stability training of the scapulae attached muscle and the stability training in the scapula movement on the basis of the control group. The results showed that the ROM and UCLA scores of the treatment group were significantly better than the control group ($P<0.05$). This demonstrates that the stability training of the scapula is more effective in improving SIS than conventional scapular exercise training.

However, this study did not provide a simple scapula attachment muscle training group and scapula stability training group and the number of samples in this study is too small, the research is not enough, to further research, to provide more clinical support for the treatment of shoulder impact syndrome.

**References:**


**Effects of cluster needling at the scalp points combined with enriched environmental treatment on behavior, IL-6 and IL-1β in autistic rats**

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**Abstract**

**Objective** To observe the effects of cluster needling at the scalp points combined with enriched environmental treatment on the behavior of autistic rats and the protein expression of IL-6 and IL-1β in the frontal lobe of the brain.

**Methods** Animal models of Wister rat autism was established by Valproic Acid (VPA). The experiment is divided into 5 groups: In the experimental group, 40 autistic rats are randomly divided into cluster needling at the scalp points combined with enriched environment group, enriched environment group, cluster needling at the scalp points group and model group (n=10), the control group are normal rats (n=10). Intervention on the 21st day after birth, after 3 weeks, behavioral analysis, Nissl staining of frontal neurons and Western blot were used to detect IL-6 and IL-1β protein expression in 5 groups of rats.

**Results** Compared with the model group, the abnormal behavior of the three after-treatmental groups were improved ($P<0.05$), the number of surviving neurons in the frontal lobe increased, the expression of IL-6 protein and IL-1β protein decreased ($P<0.05$). The cluster needling at the
scalp points combined with the enriched environment group is superior to the enriched environment group or the cluster needling at the scalp points group \( (P<0.05) \).

**Conclusion** The cluster needling at the scalp points combined with enriched environmental training can improve the abnormal behavior of autistic rats, and is superior to pure environmental or cluster needling at the scalp points training. The reason may be that inhibition of the pro-inflammatory factor IL-6 and IL-1β in the frontal lobe expression inhibits the mechanism of abnormal behavior in autistic rats.

Clinical Observation of “Jiaji” points Electro-Acupuncture Therapy in the Treatment of Hiccup

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**Abstract**
Objective: the clinical curative effect of electro acupuncture therapy in the treatment of hiccup spinal cervical clamp. Methods: patients were randomly divided into 76 cases of intractable hiccup treatment group 38 cases and control group 38 cases, Jiaji electro acupuncture therapy and traditional acupuncture treatment methods were used to the neck, the onset time between two methods, efficiency other indicators, and to evaluate the curative effect. Results: in the treatment group, acupuncture treatment times, onset time, efficiency and so on were significantly better than the control group (the treatment group efficiency was 95.5%, the effective rate of control group was 78.7%). Two methods of efficiency compared with statistical difference. Conclusion: the Cervical Jiaji points electroacupuncture therapy Hiccup curative effect, acupoint selection is excellent, it is worthy of promotion.

**Key words:** Jiaji points, hiccup, electroacupuncture therapy;

Hiccup is caused by stimulation of the afferent or efferent nerves of the diaphragm or their medullary centers. The afferent nerve of the reflex arc is the centripetal nerve fibers of the vagus and phrenic nerves. The nerve center is the anterior horn cells of the cervical spinal cord 3-5, the respiratory center of the brain stem and the reticular structure of the medulla oblongata. The efferent nerve is the centrifugal nerve of the phrenic nerve and the vagus nerve to the diaphragm, glottis and other respiratory muscles. Hiccup can be caused by any lesion on the reflex arc. According to the etiology, hiccups can be divided into central, reflex, psychiatric and electrolyte or acid-base imbalance [2]. 38 cases of hiccup were treated by cervical Jiaji acupuncture with electric stimulation. The results are reported as follows.

**Clinical data**

76 patients with general data were selected from September 2016 to March 2018 in the Department of Acupuncture and Moxibustion, Second Affiliated Hospital of Heilongjiang University of Traditional Chinese Medicine. The purpose of the treatment was persistent hiccup. The patients were randomly divided into treatment group and control group. There were 38 cases in the treatment group and 38 cases in the control group. By statistical analysis and comparison, there was no significant difference \( (P>0.05) \), and it was comparable.

**Diagnostic criteria**

The diagnostic criteria of hiccup refer to the diagnostic criteria of hiccup in Internal Medicine of Traditional Chinese Medicine [3]: hiccup is characterized by upstream Qi, hiccup in larynx, short and frequent voice, which makes people unable to control themselves. Initially the voice was loud and powerful, but for a long time it was low. X-ray barium meal and gastroscopy showed no organic lesions in the stomach and esophagus. Hiccup lasts for more than 24 hours. Hiccup is high or low. It can be restored after 30 to 60 minutes of self-pause. In severe cases, hiccup frequency occurs without gap, and it does not stop around the clock [4].
Inclusion criteria
(1) meet the above diagnostic criteria for hiccup;
(2) Age less than 75 years old;
(3) Informed consent patients;
Exclusion criteria
(1) Hiccup caused by other causes: brain trauma, tumors, abdominal surgery, etc.
(2) Complicated with severe complications such as upper gastrointestinal bleeding, pulmonary infection, acid-base imbalance and electrolyte disturbance;
(3) Heart, liver, kidney and other organ failure;
Materials and methods
Treatment group
Acupoints selection: bilateral Jiaji points 3, 4, 5.
Treatment methods: patients take seats, selected acupoints after routine disinfection, using 0.35mm*40mm needles oblique needling bilateral Jiaji points 3, 4, 5, the conductor is connected to the left and right three pairs of Jiaji points, selected rarefaction, the current to the degree of patient's tolerance, once a day, Each 30 minutes, 10 days for a course of treatment.
Control group
Acupoints selection: Tai chong (LR3), Nei guan (PC6), Zu san li (ST36).
Treatment methods: After routine disinfection of the selected acupoints, the patients were directly punctured with 0.35mm*40mm needles at the above acupoints and treated with the method of flat tonifying and relieving diarrhea. The needles were retained for 30 minutes, once a day.
Evaluation criteria
The curative effect was evaluated according to Yao Lifen's therapeutic criteria:
Recovery: hiccup disappeared, no recurrence within 2 weeks;
Improvement: hiccup disappeared, but the degree of recurrence or hiccup lessened within 2 weeks, the number of attacks decreased by more than 1/2;
Ineffectiveness: after treatment, the number of hiccup attacks decreased by less than 1/2 or symptoms did not improve.
Statistical methods
Using by SPASS16.0 software. Measuring data were tested by t test and counting grade data were analyzed by Ridit method. The difference was statistically significant with $P<0.05$.
Treatment outcomes

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Cure</th>
<th>Improvement</th>
<th>Invalidity</th>
<th>Efficiency</th>
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<tbody>
<tr>
<td>Treatment group</td>
<td>38</td>
<td>28</td>
<td>8</td>
<td>2</td>
<td>95.5%</td>
</tr>
<tr>
<td>Control group</td>
<td>38</td>
<td>18</td>
<td>10</td>
<td>10</td>
<td>78.7%</td>
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Discussion and Summary
According to the anatomical and physiological principles of Western medicine, hiccups are caused by the stimulation of the afferent or efferent nerves of the diaphragm or their medullary centers. The afferent nerve of the reflex arc is the centripetal nerve fibers of the vagus and phrenic nerves. The nerve center is the anterior horn cells of the cervical spinal cord 3~5, the respiratory center of the brain stem and the reticular structure of the medulla oblongata. The efferent nerve is the centrifugal nerve of the phrenic nerve and the vagus nerve to the diaphragm, glottis and other respiratory muscles. Hiccup can be caused by any lesion on the reflex arc. Traditional Chinese medicine theory holds that "the treatment of disease should be based on its origin." Therefore, the treatment of this disease should follow the treatment of its origin as the focus. Because the nerve center of phrenic nerve originates from anterior horn cells of cervical spinal cord 3~5, clinical studies have shown that electro-acupuncture can inhibit the excitation of phrenic nerve and achieve the effect of treating hiccups. Through the experience of treating this disease, the author believes that in the future, we should combine the basic theory of traditional Chinese medicine with the theory of anatomy and physiology of Western medicine, take anatomy as the basis, and combine the theory of traditional Chinese medicine with that of Western medicine to diagnose and treat diseases. Using the theory of traditional Chinese medicine to solve the problem, it is really effective to seek
the root of the disease. Observation of clinical efficacy shows that acupuncture at Jiaji Points has obvious advantages over other clinical treatments in treating this disease. It has the characteristics of acupoint selection, small side effects, definite curative effect and quick onset, and is easy to be accepted by patients. It is worthy of wide clinical application.

Reference

Treatment of senile urinary incontinence with warm acupuncture therapy, case report

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Abstract
Urine incontinence refers to a type of disease in which the urinary state cannot be controlled autonomously and the urine is discharged as the main symptom. Clinically, most of the elderly women, mainly due to old age, resulting in systemic physiological disorders or anatomical damage. At present, there is no curative drug for clinical treatment of senile urinary incontinence. The author used warm acupuncture to treat 1 case of senile urinary incontinence. The curative effect was judged by the Guidelines for the diagnosis and treatment of Chinese urological diseases. And through the form of follow-up, it is proved that this therapy has significant effect on the treatment of senile urinary incontinence, and has no side effects, which is worthy of clinical promotion.

Key words: Warm Acupuncture and Moxibustion, Senile Urinary Incontinence, Case report;

Urinary incontinence refers to a kind of disease that cannot urinate independently under the condition of conscious consciousness and takes urine discharge as the main symptom. Most of them are elderly women. Modern medicine believes that they are mainly caused by senile body failure, systemic physiological disorders or anatomical damage. Senile urinary incontinence belongs to the category of "drowning" and "urinary incontinence" in traditional Chinese medicine. This disease is more related to kidney-yang deficiency. Yang deficiency absorbs urine by fixing and overflows in vitro involuntarily. Warm needling and moxibustion have the dual advantages of acupuncture and moxibustion. Warm needling at Shen shu(BL23) and Hui yang(BL35) points can tonify kidney-qi, warm and dredge lower coke, promote bladder urination function, and have a good curative effect on urinary incontinence.

Evaluating efficacy:
The criteria for evaluating efficacy were formulated in accordance with the Guidelines for Diagnosis and Treatment of Urological Diseases in China [2]:

Cure: The symptoms of urinary incontinence disappeared, the urination process could be controlled automatically, no urinary overflow occurred under laughter, exercise and cough, and no recurrence occurred after 2 months of follow-up.

Improvement: After treatment, the symptoms of urinary incontinence were significantly improved, the urination process was basically controlled, the number of involuntary overflow decreased, and more than three consecutive pad tests (−);
Healed: The symptoms of urinary incontinence did not change or aggravate before and after treatment, and the pad test (+).

The author treated this disease by warming needle moxibustion therapy, and has received good curative effect. Now the report is as follows.

**First Diagnosis:**

A 76-year-old woman, came to our clinic on May 3, 2018. As she couldn't hold her urine regularly. Self-reported low back pain, limb weakness, chills, loss of appetite, long and clear urine, less frequent, poor sleep quality, pale tongue, white fur, weak pulse; four diagnostic methods, syndrome differentiation for kidney-yang deficiency. Physical examination: bilateral renal percussion pain, flat abdomen, no touch to the bladder, the rest did not show significant abnormalities. Traditional Chinese medicine was initially diagnosed as "drowning" "kidney-yang deficiency", while western medicine was diagnosed as "urinary incontinence". Inquiry: The patient has no history of basic diseases such as heart disease, hypertension, diabetes, etc. Ask the patient's consent, give the patient acupuncture combined with moxibustion treatment.

**Materials and methods**

Ask patients to take prone position, fully expose the back and buttocks, give bilateral Shinshu (BL23) and Huiyang (BL35). After routine disinfection, get breath, apply flat reinforcing and reducing manipulation, cut the moxa stick into small segments, set it on the needle handle and light it, observe the moxa stick. The degree of burning to prevent scald patients. Points allocation: Sishencong (EX-HN1) and Xuanzhong (GB39) were given. Each treatment lasted for 30 minutes and lasted for 5 days, with an interval of 2 days. After treatment, the patients were evaluated according to the criteria of urinary incontinence evaluation. After 5 days of treatment, the patients'self-reported urinary incontinence symptoms improved and their urine could be controlled.

**Re-visit:**

After a week, the patient's symptoms improved, in order to fully recover, treatment again. After 3 days of treatment, the patient's self-feeling improved, urinary incontinence criteria improved, the indicators tended to be normal and sleep improved. Three months later, the patient was followed up by telephone. The symptoms of urinary incontinence disappeared, urination was controlled, life returned to normal, and no recurrence occurred.

**Note:**

Urinary incontinence is a disease mostly caused by elderly women. The etiology of urinary incontinence is mainly caused by senile body failure, systemic physiological disorders or anatomical damage. Western medicine has no specific treatment for this disease. Traditional Chinese medicine believes that the disease belongs to the category of "drowning" and is closely related to kidney-yang deficiency, while Yang deficiency cannot consolidate astringent urine and unconsciously spill out of the body. Therefore, the treatment of this disease mostly uses the method of Warm Yang and Solid Removal, invigorating kidney and invigorating qi. As the Back-Shu point of kidney, Shenmai points the function of tonifying kidney-qì and Reinforcing Yang to consolidate detachment; Huiyang (BL35) is the intersection of Bladder Meridian of Foot Sun and Governor vessel yang-qì, warming kidney and reinforcing yang, reinforcing kidney-qì. Modern anatomy believes that stimulating Shenmai (BL23) and Huiyang (BL35) can effectively inhibit the contraction of bladder sphincter. Next to Sishencong (EX-HN1) is the paracentral lobule, which has the function of regulating urination. Acupuncture these four points can inhibit the micturition of cerebral cortex; Xuanzhong (GB39) is the "marrow meeting" of Bahui (GV20), which has the function of tonifying kidney and strengthening bone, filling essence and benefiting marrow; Moxibustion therapy is a traditional Chinese medicine treatment method, which has the function of Warming Yang and consolidating detachment, and assisting the healthy qi. Through the combination of moxibustion therapy and acupuncture therapy, the heat of moxibustion pillar can be transmitted into the body through acupuncture, which can play the role of warming the kidney and strengthening Qi. Combined with specific acupoints which have the function of inhibiting urination, the treatment of senile urinary incontinence has achieved satisfactory results, and the patients have
obvious curative effect, low recurrence rate, no side effects, and patients are willing to accept the advantages, which is worthy of clinical promotion.

**Conclusion:**

Through the diagnosis and treatment of 1 case of senile urinary incontinence, the author explored an effective method for the treatment of the disease, but the follow-up study still needs to be strengthened. The physiological and pathological basis of the disease should be further studied in order to better and accurately grasp the disease and solve the suffering of more such patients.

**Reference:**


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**Clinical observation on the treatment of allergic conjunctivitis by acupuncture of temple**

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**Abstract**

Objective: to observe the clinical effect of acupuncture temple on allergic conjunctivitis. Methods: The control group (n = 34) was treated with acupuncture at the temple point, based on syndrome differentiation type, divided into wind-heat invading object type, Spleen-stomach damp-heat type, Heat-containing type of heart meridian, Liver blood deficiency type, Kidney essence deficiency type. Giving acupuncture temple, Dazhui, Neiting, Yinlingchuan, Post-Daling, Laogong, Taixi. In the observation group, 34 cases were treated with acupuncture Chengqi, Guangming point, Waiguan and Hegu. To observe the clinical effect, symptom sign score scale and TCM syndrome differentiation scoring scale after giving acupuncture 2 courses of treatment. Results: (1) In the treatment group, the total effective rate of the control group was 97.1% and 82.4%, respectively, compared with the control group, the clinical efficacy of the treatment group was significantly better than that of the control group (P < 0.05). (2) Compared with the control group after treatment, the scores of symptoms and signs in the treatment group were significantly lower than those in the control group (P < 0.01), and the difference was statistically significant. (3) Compared with the control group, the score of TCM syndromes in the treatment group was significantly lower than that in the control group (P < 0.01), and the difference was statistically significant. No adverse reactions were found. Conclusion: the treatment of allergic conjunctivitis with acupuncture of temple is effective.

**Key words**

Allergic conjunctivitis; Conjunctival reactive inflammatory disease; Eye itching; Temple; Treatment according to syndrome differentiation; conjunctival congestion; palpebral edema
Allergic conjunctivitis [1] is one of the common clinical diseases. It is a kind of conjunctival reactive inflammatory disease. It is a kind of allergic reaction of conjunctivitis to external allergen, with itching of the eye as the main clinical manifestation. The disease has the characteristics of high incidence, long course of disease, recurrent attack and so on. Allergic conjunctivitis belongs to "itching" in traditional Chinese medicine, also known as "time recurrence". It is characterized by unbearable itching, sand discomfort, red white eyes and burning pain [2]. Acupuncture and moxibustion treatment of this disease, to improve the symptoms of patients, improve the quality of life has a certain effect. A comparative study was conducted to evaluate the efficacy of acupuncture at acupoints in the treatment of allergic conjunctivitis.

**Objective**
To observe the clinical effect of acupuncture at temple points on allergic conjunctivitis.

**Materials and methods**
From March 2017 to April 2019, 68 patients with allergic conjunctivitis were selected from the outpatient Department of Acupuncture and moxibustion, the first affiliated Hospital of Heilongjiang University of traditional Chinese Medicine. All of them had different degrees of itching, tears, burning pain and other symptoms. The control group selected acupoints: Chengzhi, Guangming, Waiguan, Hegu [3]. The acupoints of both sides were needled with 0.25 × 40mm millineedle. After qi, the needle was twisted once per 20min for 40 minutes, the frequency was 6 rpm / s, once a day, 6 days as a course of treatment, 1 day rest, 2 courses of treatment. The treatment group selected acupoints: temple points, matching points: wind-heat invading eye type: Dazhui; spleen and stomach dampness-heat type: atrium, Yinlingquan, heart meridian heat type matching points: Hou Daling, posterior labor palace, ear lobe ear tip needling bloodletting; liver blood deficiency type matching points: Ligou, bright, kidney essence deficiency type matching points: Taixi, Shenshu (replenishment method). 0. 25 × 40mm needle was used to prick the temple points on both sides, and 0.5 × 1 inch oblique acupuncture was given to the eye at the temple points. After qi, the needle was twisted once per 20min, the frequency was 6 rpm / s, once a day, 6 days as a course of treatment, 1 day rest, 2 courses of treatment.

To observe the clinical effect of patients: itching, eye pain, fear of light, foreign body feeling, the degree of improvement of spontaneous tears. The clinical signs were examined by slit lamp and the secretions, conjunctival congestion and edema, conjunctival papilla follicles, eyelid tissue edema, corneal limbal changes and corneal epithelial changes were recorded. Observe the occurrence of adverse reactions. Clinical efficacy, symptoms and signs of allergic conjunctivitis, TCM syndrome differentiation score scale of allergic conjunctivitis were observed.

**Results and discussion**
The main results were as follows: (1) the total effective rate of the treatment group and the control group was 97.1% and 82.4% respectively. The clinical efficacy of the treatment group was significantly better than that of the control group (P < 0.05). (2) The scores of symptoms and signs in the treatment group and the control group were significantly lower than those in the control group. (3) the treatment group and the control group were compared with the control group after treatment. The score of TCM syndrome decreased significantly (P < 0.01), and the difference was statistically significant. No adverse reactions were found. Conclusion: acupuncture at temple point is effective in the treatment of allergic conjunctivitis. We collected clinical allergic conjunctivitis patients, according to the symptoms of the patients combined with syndrome differentiation, clear diagnosis, clear etiology and pathogenesis, clear classification, on this basis, clear treatment, give acupuncture and moxibustion treatment, temple point is an important common strange point of the head, with the function of reconciling qi and blood, dredging collaterals and relieving pain, soothing wind and releasing heat, clearing the liver and clearing the eyes. According to the theory of acupuncture and moxibustion, it is the principle of regulating qi and blood and dredging meridians and collaterals. Acupuncture at temple points can regulate the qi and blood of the eye and dredge the meridians and collaterals of the eyes. From the theory of meridians and collaterals, temples belong to Shaoyang Meridian. The meridian of the foot of the foot is adjusted by the acupuncture of...
the temple, so that the liver qi and the liver meridians enter, and the liver qi and the blood are filled with blood, and the bile secretion is normal for the purpose of raising the order. The pulse of the less yang starts from the eyes of the eye, so the main purpose is itching. From the angle of modern medicine, because the contact between the acupuncture point and the nerve vessel of the eye is very close, there are branches and branches of the facial nerve and the facial nerve, the branch of the zygomatic branch, the inferior nerve and the superficial femoral artery of the facial nerve. The method has the advantages that the local blood flow can be enhanced, the microcirculation of the eyes can be improved, and the repair of the pathological nerve fibers and the pulp-like biofilms is facilitated, and the normal function is restored. Acupuncture at temple points can adjust the relaxation and contraction function and endocrine function of intracranial and extracranial blood vessels in both directions, and also has the effect of dredging meridians and collaterals and regulating trigeminal nerve metabolism.

In summary, Professor Cheng Weiping believes that acupuncture at temple points, emphasizing syndrome differentiation of Zang-fu organs, cooperating with acupoints of this meridian, and attaching importance to tonifying and purging techniques. Clinically, according to the symptoms of the patients, accurate syndrome differentiation, acupuncture of temple points, appropriate acupoint matching, attention to tonifying and purging manipulation, the curative effect is accurate, the operation method is simple and easy, no side effects, no adverse reactions, the effect is very good.

References:

Effects of Different Frequency Electroacupuncture on Acetylcholine and Motor Function in Rats with Cerebral Infarction

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Abstract

Objective: To compare the effects of different frequency electroacupuncture on motor function and acetylcholine content in rat cerebrospinal fluid and blood, and to determine the optimal frequency of electroacupuncture for acetylcholine in the treatment of motor dysfunction in rats with cerebral infarction. Methods: Sixty SD rats with different conditions were randomly divided into blank control group, sham operation group, model group, 2Hz electroacupuncture group, 50 Hz electroacupuncture group and 100Hz electroacupuncture group, with 10 rats in each group. 2Hz electroacupuncture group, 50Hz electroacupuncture group and 100Hz electroacupuncture group were treated with different frequency electroacupuncture. Each time 20 min, once a day, continuous treatment for 21 days. Behavioral observations were performed on rats on days 1, 3, 7, 14, and 21, respectively. After the end of the treatment, the rats were sacrificed, and the content of acetylcholine in the cerebrospinal fluid and blood was measured by ELISA using cerebrospinal fluid and blood. Results: 1. Screen screening score: The screen test score of the blank control group and the sham operation group was 0, and the prehenile traction test score was 6 points (91~120 seconds), suggesting that the operation did not affect the nerve function of the rats; The other groups were
statistically different from the blank control group (P<0.05), suggesting that rats in each group had different degrees of neurological impairment after modeling. On the 1st and 3rd postoperative day, the electroacupuncture effect was not obvious. There was no significant difference between the model group, 2Hz group, 50Hz group and 100Hz group (P>0.05). The difference began to be prominent. The difference between the 2Hz group, the 50Hz group and the 100Hz group was statistically significant (P<0.05). After 21 days of postoperative treatment, the difference was significant. 2Hz, 50Hz and 100Hz groups There was a significant difference between the groups (P<0.01). The 50Hz group screen experiment scored the lowest, and the grip traction test score was the highest. 2. Effect of electroacupuncture on Ach content in cerebrospinal fluid and blood: Ach expression was down-regulated after model establishment, and Ach expression was increased after electroacupuncture treatment. There were significant differences between the electroacupuncture groups and the control group (P<0.05). There were statistical differences between the electroacupuncture groups (P<0.01). The Ach content in cerebrospinal fluid and blood was the highest in the 50 Hz group. Conclusion: Different frequency electroacupuncture can up-regulate the acetylcholine content in rats with cerebral infarction and promote the recovery of motor function. The 50 Hz electroacupuncture group is the best.

Key Words: electroacupuncture; acetylcholine; cerebral infarction; motor function

References:

Characteristics of TCM syndromes and correlation with virus types in 2688 children with hand foot mouth disease in Heilongjiang

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ABSTRACT: Objective: The purpose of this study was to explore the characteristic of TCM syndrome and their correlation to infection virus types in Heilongjiang by expanding the sample size. Methods: A total of 2 688 hospitalized children who met the admission criteria in the Infectious Disease Department of Harbin Infectious Disease Hospital from September 1, 2014 to August 31, 2016 were selected. The clinical data of children with hand-foot-mouth disease were collected, and the clinical manifestations of children were observed on the day of admission (baseline), 3, 5, 7 and 10 days after treatment. And the syndrome characteristics of children with hand-foot-mouth disease were systematically analyzed, the prevalence of different pathogens in children with hand-foot-mouth disease was further discussed. Results: The clinical symptoms of HFMD in Heilongjiang Province were fever, maculopapular or herpes, oral herpes or ulcers, sore throat, irritability and poor appetite. According to the distribution characteristics of various syndromes in TCM, the number of distribution of male children with various syndromes is more than that of female, especially in the lung-defense syndrome. Most of the children aged 1-4 years old suffered from lung-defense syndrome, lung-stomach heat incandescence syndrome, etc. Among them, the highest proportion of pathogenic factors is lung-defense syndrome in all ages. And the number of syndromes decreased significantly after the age of 4. In 7-9 months, the incidence of syndromes was mostly, especially in lung-defense syndrome. In children with etiology detection, universal measured intestinal virus RNA positive 1456 cases; Enterovirus 71 positive 203 cases; Coxsackie virus A16 positive 108 cases. At the baseline point, all three pathogens were most common in the disease, and the general

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characteristics were consistent with the syndromes of the disease. Conclusion: Children with HFMD have different syndromes in different observation points. Among the syndromes, the incidence rate of evidences is the highest. Both EV71 and CoxA16 in children with HFMD were infected, but EV71 was the main one. At baseline, it was observed that all three pathogens were most commonly seen in the lung disease. Herewere some differences in age, time and virus infection among 2 688 children with hand, foot and mouth disease of different TCM syndromes in Heilongjiang, which may be related to region and climate

**Key words**: Hand-foot-mouth disease; Syndrome; Syndrome characteristics; Etiology

**Therapeutic effect of integrated traditional Chinese and Western medicine on ovarian failure and kidney deficiency and blood stasis syndrome**

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**Abstract**

Premature ovarian failure refers to a type of disease caused by women's low ovarian reserve capacity before the age of 40. It is mainly characterized by amenorrhea, infertility and varying degrees of low estrogrenemia [1]. The occurrence of this disease has seriously affected women's physical and mental health and quality of life, and has brought great threats to the family harmony and work of women.

**Key words**: Premature ovarian failure; Syndrome of kidney deficiency and blood stasis; Tonifying kidney and promoting blood circulation decoction; Observation of curative effect;

There is no name for premature ovarian failure in traditional Chinese medicine, but according to the records of ancient Chinese medicine literature, the disease can be attributed to the categories of “menopause”, “infertility” and “water incompatibility”. The doctors of the past generations conducted in-depth exploration and analysis of the symptoms of this disease, and believed that kidney deficiency is the root of the disease, and menstruation is closely related to the rise and fall of kidney gas [2]. The kidney has the physiological functions of storage and encapsulation, and the essence is the essence of the body's life activities, so the kidney is the innate. There is a saying in the old saying: "The essence is the essence of the body", which is stored in the kidney and relies on the storage and drainage of the kidney to achieve the purpose of metaplasia.

In recent years, the incidence of POF has become higher and higher, and the incidence rate in the general population is 1% to 3%. The cause of POF is complicated, so it is also difficult to treat this disease. The author selected 70 patients with premature ovarian failure of kidney deficiency and blood stasis to compare the clinical effects of Bushen Huoxue Tiaochong Decoction combined with Western medicine in the treatment of premature ovarian failure of kidney deficiency and blood stasis.

**Objective**

To observe the clinical efficacy of Bushen Huoxue Tiaochong Decoction combined with hormone replacement therapy in the treatment of patients with kidney deficiency and blood stasis type of premature ovarian failure. Statistical software was used for analysis to evaluate the overall clinical efficacy.

**Materials and methods**

Seventy patients who were diagnosed with kidney deficiency and blood stasis type ovarian premature aging according to the inclusion criteria were selected from September 2017 to December 2018. They were divided into study group and control group, 35 cases each. The control group used hormone replacement. On the basis of the control group, the study group was given Longjiang Han's gynecological experience prescription Bushen Huoxue Tiaochong Decoction, 28 days as a course of treatment, three consecutive courses of treatment, comparing the efficacy of the two groups; observed two groups of patients before treatment and The main clinical symptom
scores, menstrual recovery, serum FSH, LH, E2, AMH values, major clinical indicators of liver and kidney function, and total efficacy after treatment.

**Results and discussion**

After treatment, there was no significant change in the main indexes of liver and kidney function between the two groups (P>0.05), but there was no statistical significance. The scores of clinical main symptoms were significantly decreased in the two groups. The scores of serum FSH and LH were better than before treatment. Decreased, the levels of E2 and AMH were higher than those before treatment, which was statistically significant (P<0.05); and the study group was superior to the control group.

Studies have shown that Chinese medicine Bushen Huoxue Tiao Chong Decoction combined with Western medicine for the treatment of kidney deficiency and blood stasis type of premature ovarian failure (POF) is effective, can effectively alleviate the main clinical symptoms, restore normal menstruation and regulate serum sex hormone levels, and no damage to liver and kidney. The curative effect is better than the western medicine alone.

Bushen Huoxue Tiaochong Decoction is the experience of Longjiang Han's gynecology. Bushen Huoxue Tiao Chong is commonly used in the treatment of irregular menstruation, amenorrhea, dysmenorrhea, premenopausal symptoms, women's abdominal pain, infertility and other diseases. it is good. The prescription of this party is flexible, the medication is rigorous, and the blood-activating drugs are added on the basis of tonifying the kidney. According to the research of modern pharmacology and clinical observation results, the kidney-reinforcing drugs in Fangzhong have the function of strengthening the immune system. Some drugs also have hematopoiesis, anti-inflammatory and antibacterial effects; while blood-activating drugs can reduce the accumulation of platelets and have dilated blood vessels. The role of anticoagulation. Combination of two types of drugs, add licorice to reconcile various drugs, tonifying kidney and promoting blood circulation, first supplement, but there is scattered in the supplement, can effectively improve the diastolic function of blood vessels, enhance the contraction of the uterus, and reduce the abnormal increase of FSH in serum. To increase the level of estrogen in the body.

By comparing the improvement of the main symptoms and serum sex hormone levels before and after treatment in the two groups of patients, it can be seen that Bushen Huoxue Tiao Chong Decoction combined with Western medicine can alleviate the clinical symptoms of patients with premature ovarian failure and improve the sex hormone levels in the body, which is better than Western medicine alone. This will bring good news to those who have fertility requirements, and will also improve the husband and wife's life and work life.

**References:**


**Clinical Observation on Guanxin Danshen Dropping Pill for Prevention and Treatment of Restenosis after PCI in Patients with Coronary Heart Disease**

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Abstract: To observe the effect of Guanxin Danshen Dripping Pills on restenosis after PCI in patients with coronary heart disease. Methods 72 patients with coronary artery disease who underwent coronary stenting were randomly divided into observation group and control group, 36 cases in the control group. The control group was treated with conventional western medicine after stent implantation. The observation group was added on the basis of conventional western medicine treatment. Use Guanxin Danshen Drop Pills. The rate of restenosis, ventricular function, and incidence of adverse cardiovascular events were observed 6 months after surgery. Results There were significant differences between the two groups at 6 months after operation (P<0.05). Conclusion Guanxin Danshen Dropping Pill can reduce restenosis after coronary intervention. Key words: Guanxin Danshen dripping pills; coronary heart disease stenting; restenosis

Percutaneous coronary intervention (PCI) is an important treatment for coronary heart disease. However, the number of patients with coronary re-stenosis after PCI is still one of the urgent medical problems to be solved. Studies have shown that traditional Chinese medicine can effectively prevent coronary restenosis after PCI through multiple pathways and multiple targets. Satisfactory curative effect was achieved by using Guanxin Danshen Dropping Pill to prevent coronary restenosis after PCI in patients with coronary heart disease.

Objective: To observe the clinical efficacy of Guanxin Danshen Dripping Pill in preventing and treating coronary restenosis after PCI, and to provide evidence for clinical treatment of coronary restenosis after PCI.

Materials and Methods
1.1.1 Basic information. From April 2018 to May 2019, 72 patients with coronary artery disease and coronary artery stenting were successfully diagnosed by coronary artery angiography (CAG). The patients were randomly divided into two groups. In the control group and the observation group, 36 cases were in the control group, including 17 males and 19 females, aged 46-80 years; 36 patients in the experimental group, including 20 males and 16 females, and the control group was 45-78 years old. There was no significant difference in the ratio of male to female, mean age, and severity of the disease between the two groups (P>0.05), which was comparable. Inclusion criteria: in line with the diagnosis of coronary heart disease; successful PCI; age 45-80 years; 4 informed consent. Exclusion criteria: combined with severe cardiopulmonary insufficiency, severe primary disease such as liver and kidney system; severe heart failure, and severe arrhythmia; severe hypertension, diabetes and/or diseases that seriously affect quality of life, such as Rheumatoid arthritis, stroke, etc.; does not meet the inclusion criteria or does not follow the prescribed medication.

1.2 method. 1.2.1 Treatment method Control group: After PCI, subcutaneous injection of low molecular weight heparin 5000 IU / time, 2 times / d, for 3 days. Regular use of aspirin tablets (Chinese medicine standard: J20171021) 100 mg, 1 time / d; Clopidogrel (national drug quas-word: J20130083) 75 mg, 1 time / d; atorvastatin tablets (Chinese medicine standard: J20030048) 20 mg / d, oral before bedtime; Betaloc (Chinese medicine standard: J20150044) 12.5mg, 2 times / d; observation group in the control group based on Western medicine treatment, began to take Guanxin Danshen Dripping Pills on the day of stent placement (Guo Zhu Zhunzi: Z20010037), 3 times / d, 0.4g / time; course of treatment for 6 months.

1.2.2 Follow-up for 6 months, the main observation indicators: incidence of restenosis; preoperative, 6 months postoperative cardiac ultrasound wall dynamic index (WMI), left ventricular ejection fraction (LVEF) value; The occurrence of adverse cardiovascular events

1.2.3 Statistical methods Statistical analysis was performed using SPSS 19.0. Statistical results, P<0.05 were statistically significant, P>0.05 was not statistically significant.

Results and discussion
Six months after PCI, the observation indexes of the two groups were analyzed. The observation group was superior to the control group, and the comparison between groups was P<0.05. The difference was statistically significant. See Table 1 and Table 2 for details. There were 2 cases of acute myocardial infarction in the control group during the two groups. There was no malignant cardiovascular event in the observation group. The incidence of adverse cardiovascular
events in the observation group was lower than that in the control group (P < 0.05).

Table 1 Comparison of coronary angiography results after 6 months of treatment in both groups

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Loss of inner diameter (mm)</th>
<th>Net area of the official cavity (mm²)</th>
<th>Restenosis rate [n(%)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation group</td>
<td>3</td>
<td>0.49±0.32</td>
<td>2.71±1.01</td>
<td>3(8.33)</td>
</tr>
<tr>
<td>Control group</td>
<td>3</td>
<td>0.76±0.39</td>
<td>1.69±1.12</td>
<td>10(27.78)</td>
</tr>
</tbody>
</table>

Table 2 Echocardiographic indicators before and after 6 months in both groups

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>LVEF (%)</th>
<th>WMI (Minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation group</td>
<td>36</td>
<td>53.45±5.43</td>
<td>2.64±0.79</td>
</tr>
<tr>
<td>Preoperative</td>
<td>36</td>
<td>61.34±5.67*</td>
<td>1.42±0.38*</td>
</tr>
<tr>
<td>6 months after surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>36</td>
<td>54.82±6.28</td>
<td>2.81±0.49</td>
</tr>
<tr>
<td>Preoperative</td>
<td>36</td>
<td>57.60±4.75**</td>
<td>1.66±0.51**</td>
</tr>
<tr>
<td>6 months after surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Compared with the preoperative group, □P<0.05; compared with the control group after 6 months, *P<0.05

The occurrence of restenosis after PCI may be related to various factors such as vascular insufficiency, platelet deposition and aggregation, thrombosis, inflammatory reaction, and excessive proliferation of vascular smooth muscle cells[2]. Chinese medicine believes that coronary heart disease after PCI is mostly collateral damage, leading collateral qi stagnant and collateral channel stasis and obstruction. Guanxin Danshen Dripping Pills are mainly composed of Panax notoginseng, Radix Salviae Miltiorrhizae, and Lignum Dalbergiae Odoriferae, and this prescriptions has the effect of regulating qi, resolving stasis, dredging collaterals, nourishing blood and alleviating pain[3]. This study shows that the addition of Guanxin Danshen Dripping Pills on the basis of Western medicine treatment has a significant effect on reducing the incidence of coronary restenosis after PCI, improving cardiac function and reducing adverse cardiovascular events.

References:

Effect of traditional Chinese Medicine Health Management Service Model on self-Management level and subjective well-being of patients with Type 2 glycosuria

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Abstract
In this study, 60 patients with type 2 diabetes who were hospitalized in our hospital were intervened by TCM health management service mode for 6 months. Through the Chinese version of Deborah's Diabetes Self-management scale translated by Panjie of Peking University and the MUNSH of Newfoundland Memorial University, the level of self-management and subjective well-being are generally not high. However, the TCM health management service mode can significantly improve the self-management and subjective well-being of patients, and provide nursing and health management methods for patients with type 2 diabetes, preventing or delaying. The occurrence and development of diabetes mellitus.

Key words: Type 2 diabetes mellitus; self-management level; subjective well-being; traditional Chinese medicine health management service model

Diabetes is a common chronic metabolic disease. According to statistics, the number of diabetes mellitus in China has increased to about 92.4 million, and increased year by year [1], which seriously affected the health of the elderly. Some scholars [2] found that the self-management level of 887 diabetic patients in Gusu community was relatively low, and their quality of life was generally not high. The self-management level of diabetic patients is very important to maintain the stability of blood glucose, reduce the occurrence of complications and improve the quality of life. Effective self-management can help patients control disease, change bad lifestyle and improve quality of life [3]. Diabetes mellitus is due to a long course of disease In order to improve the self-management level and the subjective well-being of the patients with type 2 diabetes, we should explore the subjective well-being of the patients with type 2 diabetes. In recent years, in the area of diabetes management, the traditional Chinese medicine nursing relies on its unique theory and nursing experience, and has obtained positive effect [4]. The purpose of this study is to explore the effect of the mode of health management on the self-management and the subjective well-being of the patients with type 2 diabetes, and to provide a method for the nursing staff to guide the formation of the self-health management mode in the patients with diabetes.

Objective
To study the effect of the mode of health management on self-management and subjective well-being of type 2 diabetic patients.

Data and methods
From March to November 2016, 60 patients with type 2 diabetes mellitus in outpatient department and endocrine department of our hospital were selected as the subjects. Traditional Chinese medicine health management service model was used to intervene diabetic patients for 6 months. The patients were investigated and analyzed before and after intervention through the Chinese version of diabetes self-management scale of Deborah translated by Pan Jie of Peking University and the happiness scale (MUNSH) of Newfoundland Memorial University.

Results and discussion
Before intervention, the total self-management score of type 2 diabetes patients was(19.319 ± 1.878), the total self-management of patients before discharge was(2.690 ± 1.081), the intervention was 3 months(25.106 ± 1.933), and the intervention was 6 months(27.367 ± 2.55). After the intervention, the self-management level of the patients was significantly different at all stages, and the self-management level was significantly improved, which was manifested in five aspects: diet control, exercise exercise, drug compliance, monitoring compliance and foot nursing.

Before intervention, the total score of subjective well-being of patients was (23.00, 28.00),Total score before discharge (22.00, 26.00),The total score of intervention for 3 months was 23.00, 28.00),The total score of intervention for 6 months was 23.00, 28.75). After intervention, the self-management level of the patients was significantly different in each stage, and the self-management level was significantly improved, which was manifested in four aspects: positive, negative emotion and positive and negative experience.

As a result, the self-management level of patients with type 2 diabetes is mostly in the middle level, and the level of subjective well-being is not high, which is lower than that of the middle-aged and old-age population in China [5].
Thus, the service model of TCM management of type 2 diabetes can effectively improve the self-management level and subjective well-being of patients. This service mode not only facilitates the patient's health management, but also guides the decision-makers and managers of the disease, but also facilitates and spreads the TCM nursing technology and the thought of TCM theory. It can provide a method for nursing staff to guide self-health management and health education in patients with type 2 diabetes.

References:

Experience Discussion of Electroacupuncture in The Treatment of Visual Impairment

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Abstract  Objective: To summarize Professor Gao Weibin's clinical experience in the treatment of visual impairment with electro-acupuncture, and probe into its theoretical basis in order to provide reference for clinical treatment of visual impairment. Methods: During the time following Professor Gao to the clinic, the clinical effect of EA in the treatment of visual impairment was observed, and the diagnosis and treatment mechanism of visual impairment were summarized. Results: Professor Gao Weibin use electroacupuncture in the treatment of Visual impairment, guided by the theory of "The liver receives blood and then the eyes can see", taking "meridian tendons" as the acupoint, creating the therapy "Eye Jingjin Electroacupuncture", which focuses on dredging blood and qi vessels of fundus in order to achieve the clinical effect of "get blood, get vision". Conclusion: Electroacupuncture is effective in the treatment of visual impairment, which provides a new idea for clinical treatment of visual impairment.

Key words  electroacupuncture; visual impairment; meridian of muscle tendons around eye; professor Gao Weibin; experience

Visual impairment is decline or loss of eyesight in all visual fields of monocular or binocular eyes. Involving a wide range of diseases, Visual impairment diseases seriously affect the quality of life of patients, and there is still a lack of effective and reasonable treatment about it. Eye acupuncture is easy to cause eye bleeding. Under the guidance of anatomy, Professor Gao uses acupuncture to the attachment point of eye muscle (meridians and tendons of traditional Chinese medicine) combined with electroacupuncture, which can
not only promote blood circulation but also reduce bleeding, and the curative effect is remarkable in the treatment of visual impairment.

1 Experience discussion

1.1 Guided by the theory of "The liver receives blood and then the eyes can see"
The "The liver receives blood and then the eyes can see" comes from the classical book of TCM *Huangdi Neijing*[1] 21, and emphasizes that the visual function is closely related to the liver and blood. First, the liver is open to the eye[1] 7. The eye is the outside of the liver and is the nourishing of the essence of the blood stored in the liver. Second, the liver is connected to the eye[2] 36-37. The liver pulse is the essence of the essence of the blood. Third, liver-qi being connected with eyes [2] 52. The eye can be seen if the liver-qi is sufficient. Professor Gao believes that dredging fundus vein is the key to the treatment of visual impairment.

1.2 Innovation of "Acupuncture of Eye Meridian tendons"

1.2.1 Theoretical basiss of electing acupoints according to "meridian tendons"
The relationship between the "meridian tendons" and the "veins of TCM" is very close. In *Huangdi Neijing*, "tendons" and "veins" are often referred to as "veins of tendons ". It can be seen that "tendons" and "veins" are closely related, only "meridian tendons" are normal, the qi and blood operation can be unobstructed. Therefore, that's one of the reasons why Professor Gao to pick points from "meridian tendons" and dredge the fundus vein. Liver dominates meridian tendons, leading dredging. "Bone tendons are soft, qi and blood can flow", *Huangdi Neijing* records. Professor Gao takes "meridian tendons" as the acupoint to regulate tendons to make tendons soft, which can adjust local qi and blood, balance yin and yang, dredge fundus vein, so that "The the nourished eyes make the vision normal." Professor Gao often said: "The road can be driven only after paved, and the door can not be entered after unlocked ." Therefore, this is another reason why picking points from "meridian tendons".

1.2.2 New point located according to "meridian tendons", and method of operation
4 new acupoints are selected. The first new point, named "Shangming", is located at the 2-3mm of the superior median temporal side of the eyeball, on the attachment point of the superior rectus muscle. The second named "Neiming", is located in the orbit between Shangming and Zhiming Point, on the superior oblique muscle. The third, "Xiaoming", located at the 2-3mm in the lower direction of the eyeball, is on the attachment point of the inferior rectus muscle. The fourth point, named "posterior hole", is located at the lower part of the Xiaiming point, on the lower oblique muscle.

Introduction of the operation methods. After being sterilized, each point was directly punctured into by the 0.25 mm × 40 mm acupuncture needle within 17 mm, connected with the a KWD-808I needle instrument which is adjusted to dense wave. Two groups, "Shangming "connects with "posterior hole"," and "Neiming"with "Xiaoming" , form loops respectively. Adjust the size of current according to the patient's tolerance and keep it for 30min. Slowly twist the needle out after the end.

1.2.3 Pay attention to the application of electro-acupuncture
In that opinion of the professor Gao, electing acupoints according to "meridian tendons" combined with the acupuncture, could relieve the spasm of the arterial blood tube, adjust the structural relationship between the various tissues outside the fundus blood vessel, improve the blood supply of the fundus, and the nerve tissue repair and regeneration can be promoted, and the optic nerve injury or the atrophy can be improved. In the treatment of vision disorders, modern studies have also shown that[6], as long as the presence of the visual path is not fully affected, it is possible to obtain a visual improvement by the residual visual activation.

1.2.4 Evasion of bleeding risk
First, to assure the safety of needle injection, the depth of injection is controlled within 17mm; Second, the wrapping of muscle tendon to needle tip can antagonize the tension
Healing Effect of Encircling Electroacupuncture for Pressure Injury Induced by Ischemia-Reperfusion

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Abstract

BACKGROUND: Medical device related pressure injury (MDRPI) has a significant impact on the life quality of patients and increase the cost of care for patients and providers. Ischemia-reperfusion (IR) is one of the important mechanisms leading to pressure injury (PI). Studies have shown that PI can be effectively prevented by improving local blood flow. Electroacupuncture has the effect of improving local blood circulation. In a previous randomized controlled trial, we found that electroacupuncture could significantly promote wound contraction after pressure injury.

OBJECTIVE: To investigate whether electroacupuncture can promote the sore surface contraction by improving local blood perfusion after ischemia-reperfusion induced pressure injury (IRIPI).

METHODS: Twenty-four female C57BL/6 mice were randomized divided into encircling electroacupuncture (EEA), acupuncture, model and control group. The IRIPI model was prepared on the dorsal skin of mice. The injury characteristics, area, local blood perfusion volume of each group of IRIPI mice after 1 to 12 days of intervention, and the local blood perfusion volume before and after the intervention of EEA or acupuncture were observed.

RESULTS: After 10-12 days of intervention, the area of sore surface of acupuncture group was significantly smaller than the model group (p<.05). After 5 days of intervention, the area of PI of EEA group was significantly smaller than the acupuncture group (p<.05) and the model group (p<.05). After 4 days of intervention, the local blood flow reperfusion of PI was significantly lower than the model group (p<.05). After 8 days of intervention, the level of the control group was reached (p>.05). The local blood flow of the EEA after 2 days of the intervention was significantly lower than the acupuncture group (p<.05) and the model group (p<.05), the control group level was reached after 5 days of intervention (p>.05). In addition, the local blood perfusion of pressure...
injury after EEA was slightly higher than that before intervention, and there was a significant difference after 11 days of intervention ($p<.05$).

**CONCLUSION:** EEA can improve the local blood perfusion of IRIPI and promote the sore surface contraction. EEA has a slight immediate effect on local blood perfusion. 

**Keywords:** Encircling Electroacupuncture; Pressure Injury; Ischemia-Reperfusion

**Discussion on TCM treatment of ovarian chocolate cyst dysmenorrhea from "collateral"**

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**Abstract:**
Dysmenorrhea is a common clinical manifestation of ovarian chocolate-like cysts. The long-term accumulation of blood stasis is a common cause of ovarian chocolate-like cysts. Air-conditioning disorders, long-term disease enters the collaterals, and the stasis of collaterals are the keys to the pathogenesis of ovarian chocolate-like cysts. At the same time, for the formation of ovarian chocolate-like cysts dysmenorrhea, the weak of collaterals, mass of collaterals, and stasis of collaterals have their direction treatment as established nourishing qi and bloodto throughcollateral, activating blood to opening collateral, warming meridian to opening collateral and the relevant common traditional Chinese medicine. The clinical combination of the disease is flexible, and the whole aim is to treat the phlegm and relieve pain as the therapeutic purpose.

**Key words:** ovarian chocolate-like cysts, dysmenorrhea, the weak of collaterals, mass of collaterals, and stasis of collaterals

Ovarian chocolate-like cysts is the most common type of endometriosis. Dysmenorrhea is the most important clinical manifestation. According to literature research [1], about 70% of patients with ovarian chocolate-like cysts show abdominal pain. It is difficult to heal, and its pathogenesis and pathogenesis are mostly caused by blood stasis. Ye Tianshi proposed in the "Clinical Medical Record Guide" that "the initial disease is in the longitude, long-term disease enters the collaterals", the long-term ovarian chocolate-like cyst, the blood stasis is easy to cause choroidal dysfunction [2], from the perspective of collateral disease, can provide new ideas for clinical treatment. The relevant knowledge and treatment experience are summarized below.

1. **The etiology and pathogenesis of ovarian chocolate-like cysts**

   1.1 The long-term accumulation of blood stasis is a common cause of ovarian chocolate-like cysts

   Modern medical research has shown that dysmenorrhea caused by ovarian chocolate-like cysts is mostly caused by inflammation, mechanical traction, hormone level secretion disorder and nerve growth factor. According to the theory of traditional Chinese medicine, ovarian chocolate-like cysts belong to the category of gynecological symptoms. The main cause of the disease is “blood out of the meridian”, which is blocked by the blood vessels and the blood stasis, and the blood stasis is blocked for a long time [3]. Women use blood for whole life, and blood from the meridian is not allowed. Long-term disease enters the collaterals, stasis,tcollaterals, leading to collateral damage, affecting blood and qi stasis, so the pain is difficult to eliminate.

   1.2 Collateral stagnation is the key to the pathogenesis

   Blood stasis is not only a disease factor of ovarian chocolate-like cysts, but also a special pathological product in the entire course of women. The blood stasis accumulated for a long time, causing collaterals stagnation and symptoms. Long-lasting symptoms not only making the
collaterals obstruct, qi and blood being difficult to move, and at the same time suffering from symptoms and bruises, but also leading the weak and damage of collateral. "no through and pain, no nourish and pain," which leads to the phenomenon of dysmenorrhea in chocolate-like cysts of the ovary\[4\].

2. Treating ovarian chocolate-like cyst dysmenorrhea from " collateral"

2.1 Mass of collaterals - activating blood to opening collateral

Blood stasis is the most common pathogenesis of ovarian chocolate-like cysts. In the early stage of the disease, the blood out of the meridian stagnating the collateral, and blood is not allowed to follow the path. The common symptoms like that the pain stinging during the menstruation, the tongue is freckled, and the pulse is sputum. Clinically, more patients are treated with activating blood and removing blood stasis. Commonly used drugs are Jixueteng 10g, Baishao 10g, Chuanxiong 10g, Yujin 15g, and Chuanlillianzi 10g. The Jixueteng and Baishao nourish blood and promote blood circulation, so that the blood can beactivity without overflowing. Chuanxiong, Yujin, and Chuanlillianzi can remove qi and be effective in relieving pain, which can effectively alleviating clinical symptoms such as dysmenorrhea caused by ovarian chocolate-like cysts.

2.2 Stasis of collaterals - warming meridian to opening collateral

Symptoms are long-term unhealed so that blood stasis blocking the veins. Patients add cold feelings, which is stagnation of the veins. Cold and phlegm, invading the veins, causecollateralstasis. The common symptoms like the cold pain the menstruation, with warm can be relieve, the hands and feet are easy to cold, waist and knee cold pain and other symptoms. Common treatment is warming meridian to opening collateral. Commonly used drugs are Taoren 10g, Danggui 10g, Danpi 10g, Chuanxiong 10g, and Taorencan through collaterals but not stagnation. Danggui and Danpi nourishing blood and promoting blood circulation. Chuanxiong can make difference on the lower energizer, on the basis of activating blood opening collateral, to achieve the effect of warming meridian, dispelling cold and relieving pain.

2.3 Weak of collaterals - nourishing qi and bloodto through collateral

Long-term blood stagnation enters the collaterals, with the qi and blood difficult to move, the collaterals difficult to support. The collaterals are weak and hurt, so that there being a mixture of false and real, which is causing pain. The common symptoms like the pain stinging during the menstruation, which can be relieved by tough. Common treatment is nourishing qi and blood through collateral. Commonly used drugs are Huangqi 15g, Baizhu 10g, Danggui 15g, Fuling 10g, Gancao 10g, Chuanxiong 10g, Astragalus, Atractylodes, Astragalus, Radix Glycyrrhizae benefit Qi and Rongluo. The Huangqi Baizhu Fuling Gancao can benefit qi and nourishing collaterals, Danggui and Chuanxiong can nourish blood and promote blood circulation, while eliminating the symptoms, to achieve the effect of relieving pain.

3 Discussion

In recent years, collateral disease has become a research hotspot in the pathogenesis and treatment of traditional Chinese medicine. However, the research on gynecological diseases in the theory of collateral diseases still lacks in-depth discussion. Combining collateral disease theory with ovarian chocolate-like cysts in existing treatment experience and methods. Further consideration of clinical treatment can not only provide new ideas and methods for clinical treatment, but also find new breakthroughs in the study of gynecological diseases in the theory of collateral diseases, so as to better guide clinical application.

References:


Study on regulatory effect of Chinese herbal compound for invigorating kidney and removing dampness on P2X7R-NLRP3-Nek7 signaling pathway in GA rats

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Abstract
Our research team found that Chinese herbal compound for invigorating kidney and removing dampness could inhibit the expression of P2X7R, NLRP3, Nek7 and IL-Ibeta in serum and synovium of GA rats. Therefore, this article reviews the research progress of P2X7R, NLRP3 and NEK7 at home and abroad, in order to explore the pathogenesis of inflammation and pain in GA, and provide new ideas and therapeutic targets for the prevention and treatment of GA.

Key words: Gouty arthritis; P2X7R; NLRP3; NEK7; Pain

At present, with the increasing incidence of gouty arthritis year by year, more and more studies have been done on the inflammatory reaction and pain mechanism of gouty arthritis. Scholars believe that the disease is mainly caused by the deposition of uric acid and ATP stimulating the expression of P2X7R, NLRP3 and NEK7 to induce the maturation and secretion of inflammatory factors, but the specific mechanism is still unclear.

Our research team found that Chinese herbal compound for invigorating kidney and removing dampness could inhibit the expression of P2X7R, NLRP3, Nek7 and IL-Ibeta in serum and synovium of GA rats. Therefore, this article reviews the research progress of P2X7R, NLRP3 and NEK7 at home and abroad, in order to explore the pathogenesis of inflammation and pain in GA, and provide new ideas and therapeutic targets for the prevention and treatment of GA.

Objective: To investigate the regulatory effect of Chinese herbal compound for invigorating the kidney and removing dampness on the P2X7R-NALP3-NEK7 signaling pathway in rats with gouty arthritis (GA).

Materials and methods; 25 SD rats were randomly divided into four groups: The blank group (BG) and model group (MG) were given 0.9% NaCl solution, the western medicine control group (IG) was given indomethacin solution 5 ml/kg, and the Zisheng Shenqi pill medium concentration group (ZG) was given Chinese medicine compound 10 mg/kg. (N=6). The rats in each group were given 0.9% NaCl solution by gastric perfusion 6 days before the establishment of the model. The standard was 1 mL per 0.1 kg rat body mass. 7 days later, BG was injected with 0.2mL 0.9% NaCl solution into the right knee joint of rats. Except BG, the others were using the following methods: intraperitoneal injection with 3% oxonic acid potassium solution, 3ml/100g. After 15 minutes, used BD needle inserted into the right knee joint of rats. Then injected the 0.2mL MSU sodium solution into the joint cavity. After 4 hours, rats in each group were given 10% chloral hydrate intraperitoneal anesthesia and then punctured for cardiac blood, and centrifuged for 20 minutes at 3000r/min to separate serum. The serum levels of caspase-1, IL-1beta and uric acid were detected by ELISA. P2X7R and NEK7 protein expression in synovial tissue was detected by Western blot. Detection of NLRP3 expression in synovial tissue of rats by RT-PCR.
Results and discussion: In the medium-dose Chinese medicine group treated with Chinese herbal compound for invigorating the kidney and removing dampness, the pathological changes in synovial tissues, the value of blood uric acid in the body, and the expression levels of caspase-1, IL-1β and in serum decreased significantly compared to the model group (P<0.05); and in the Chinesemedicine group treated with the Chinese herbal compound (See Table 1 for details). Western blot analysis showed that the expression level of P2X7R, NEK7 of Chinese medicine group decreased significantly insynovial tissues compared to the model group (P<0.05). So decreased the expression level of NLRP3 by RT-PCR analysis (See Figure 1-2 for details).

<table>
<thead>
<tr>
<th>组别</th>
<th>剂量</th>
<th>IL-1β (μmol/mL)</th>
<th>caspase-1 (μmol/L)</th>
<th>尿酸 (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG</td>
<td>-</td>
<td>0.8±0.57</td>
<td>2.73±0.80</td>
<td>14.68±2.88</td>
</tr>
<tr>
<td>MG</td>
<td>-</td>
<td>4.70±0.83</td>
<td>4.43±1.03</td>
<td>42.05±8.06</td>
</tr>
<tr>
<td>IG</td>
<td>0.003g/mL</td>
<td>1.58±0.63</td>
<td>3.17±0.95</td>
<td>22.73±3.89</td>
</tr>
<tr>
<td>ZG</td>
<td>10mg/kg</td>
<td>1.64±0.36</td>
<td>3.00±0.86</td>
<td>24.68±4.04</td>
</tr>
</tbody>
</table>

Table 1 Expression of IL-1beta, caspase-1 and uric acid in serum of rats in each group

![Figure 1 Expression of P2X7R and NEK7 in synovial tissue of rats in each group](image1)

Figure 1 Expression of P2X7R and NEK7 in synovial tissue of rats in each group

![Figure 2 Expression of NLRP3 in synovial tissue of rats in each group](image2)

Figure 2 Expression of NLRP3 in synovial tissue of rats in each group

Zhang Yong[1] believes that ATP-P2X7R-IL-1beta is a target for the treatment of acute episodes of GA. The results enrich the pathogenesis of GA, but the relationship between P2X7R and IL-1beta has not been specifically explored, which may be related to the expression of NLRP3 and NEK7. Our previous experimental studies also showed that Shisheng Shenqi Pill could regulate NALP3-Caspase-1-IL-1 beta, NALP6-caspase-1-IL-1 beta inflammation signaling pathway and inhibit the expression of NALP3, NALP6, Caspase-1 and IL-1 beta in GA rats[2-3]. So blocking the inflammatory signaling pathway of“P2X7R-NALP3-NEK7”isan important mechanism of action in preventing and treating gouty arthritis with Chinese herbal compound for invigorating the kidney and removing dampness.

Reference:
Application of traditional Chinese medicine in cardiac rehabilitation

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Abstract

From absolute bed rest to standard cardiac rehabilitation exercise, cardiac rehabilitation has gone through a century of history. Studies have shown that cardiac rehabilitation can improve the quality of life of patients, reduce the risk of cardiovascular accidents, and accelerate the recovery of patients with cardiovascular diseases. It is mainly used for coronary heart disease, acute coronary syndrome, rehabilitation after percutaneous coronary intervention and other diseases. In recent years, the way of cardiac rehabilitation is not only limited to exercise, but also Chinese medicine and characteristic therapy of traditional Chinese medicine have played a unique role.

Key words: Heart Rehabilitation; Traditional Chinese Medicine; Traditional Chinese Medicine Characteristic Therapy

Heart rehabilitation was first carried out in the United States. In 1960, some surveys in the United States showed that some patients with acute myocardial infarction had better rehabilitation with proper exercise than with absolute bed rest. However, cardiac rehabilitation started late in China, after the reform and opening up. The first batch of cardiac rehabilitation studies were conducted by Professor Ququ, with the participation of Professors Wu Yingkai, Sun Ming and Sun Jiazheng, who laid the foundation for the cause of cardiac rehabilitation in China¹. Academician Chen Keji attached great importance to the application of traditional Chinese medicine in cardiac rehabilitation. He once said that "attaching importance to traditional Chinese medicine is the beginning of cardiac rehabilitation". Application of TCM characteristic therapy in cardiac rehabilitation:

1. Dynamic-static combination method. Chen Keji believes that from the point of view of "Shape", tranquility is beneficial to the purity of mind so that "God" can be stored. Moreover, motion helps to strengthen the body, so that the air machine can be adjusted smoothly. The combination of movement and static can achieve the goal of rehabilitation. "Move" includes Baduanjin and 24-style Taijiquan. Baduanjin and 24-style Taijiquan make the muscles and bones strong, dredge channels and collaterals, and promote qi and blood through the method of combining body movement and breathing. Modern research shows that it can reduce blood pressure, increase heart rate variability and alleviate anxiety².

2. Pentatonic therapy. That is to say, the combination of five tones, the five emotions and the five viscera can achieve the purpose of regulating body and mind. Five tones include Gong, Shang, Zhi, Yu, Jiao. "Gong" tone refers to melodious and simple music, which corresponds to the "earth" in the five emotions and enters the spleen of the five viscera. "Shang" tone refers to the music with high-pitched and powerful, which corresponds to the "gold" in the five emotions and enters the lungs of the five viscera. "Zhi" tone refers to relaxed and happy music, which corresponds to "fire" in the five emotions and enters the heart of the five viscera. "Yu" tone refers to sad and desolate music, which corresponds to "water" in the five emotions and enters the five viscera. "Jiao" tone refers to the kind and open music, which corresponds to the "wood" in the five emotions and enters the liver of the five viscera organs. Studies have shown that music can also lower blood pressure.
and heart rhythm when regulating patients' mood. And listening to classical music can enhance vagal nerve activity. Therefore, when patients with cardiovascular disease have pathological changes in one of the five viscera, they can be treated dialectically according to the corresponding five tones, so as to promote cardiac rehabilitation[5].

3. Acupoint application. Acupoint application therapy has a long history and is a treatment method with Chinese characteristics, which is to place the selected Chinese medicines on the skin after treatment and play a therapeutic role through transdermal absorption. Acupoints are selected according to dialectical treatment, and the selected acupoints are stimulated by drugs to stimulate their meridians and internal organs, so as to treat diseases. Acupoint sticking can improve blood pressure, alleviate symptoms such as angina pectoris, and promote cardiac rehabilitation. It has a definite effect and is popular with patients[4].

Treatment of heart rehabilitation with traditional Chinese medicine:

In cardiac rehabilitation, traditional Chinese medicine can be used to differentiate and treat patients according to their different symptoms. For example, qi deficiency invigorates qi, blood stasis invigorates blood, phlegm dampness resolves phlegm, etc. In traditional Chinese medicine, Ligusticum Chuanxiong belongs to the liver, gallbladder and pericardium meridians, which have the functions of promoting qi, activating blood circulation and removing blood stasis. Red peony belongs to the liver meridian and has the functions of activating blood circulation and dredging collaterals. It has been proved that Ligusticum Chuanxiong and Red peony can prevent coronary artery restenosis[5]. Ginkgo biloba belongs to the heart and lung meridians. It has the functions of activating blood circulation, removing blood stasis and lowering blood lipid. Modern pharmacological studies have found that Ginkgo has anti-myocardial ischemia, protection of myocardial cells, hypotension and other effects. Salvia miltiorrhiza belongs to the heart and liver meridian, which has the functions of removing blood stasis, clearing heart and removing trouble. There is also the saying that "blindly Salvia miltiorrhiza has the same function as four things" (Siwutang: Chuanxiong, Angelica sinensis, Rehmannia glutinosa, Paeonia lactiflora); Paeonia suffruticosa returning to Heart, Liver and Stomach Meridians has the functions of clearing heat, cooling blood and activating blood circulation; Honeysuckle returns to the lung and stomach meridians and has the functions of clearing heat, expelling wind and dredging collaterals; Astragalus membranaceus returns to the spleen and lung meridians, which has the functions of benefiting the body and strengthening the superficial muscles, etc. It can reduce the proliferation of smooth muscle, decrease the damage of vessel wall and prevent the re-stenosis of coronary artery by cooling blood and generating muscle[6]. In addition, there are some traditional Chinese medicines such as Albizzia julibrissin, Bupleurum chinense, Tulip, Yuanhu, Xiangfu, Salvia miltiorrhiza and Melia azedarach, which can soothe the liver and relieve depression, regulate qi and make the mood happy. In traditional Chinese medicine, happiness corresponds to heart, which is beneficial to heart rehabilitation.

Insufficiency of cardiac rehabilitation:

The contraindications of cardiac rehabilitation have not yet been unified. The main complications of cardiac rehabilitation are myocardial infarction, arrhythmia, cardiac arrest, sudden death, hypoglycemia and so on. The most common complications are arrhythmia. Secondly, there are still patients who are not aware of the curative effect of cardiac rehabilitation, so the elderly are not very active in cardiac rehabilitation[7].

References:


**Study on the clinical efficacy of Deanxit combined with Suanzaoren decoction in the treatment of post-stroke depression**

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**Abstract**

In this study, we used drugs to treat post-stroke depression, and compared the efficacy of Deanxit and Suanzaoren Decoction combined with Deanxit in clinical treatment of post-stroke depression. The clinical questionnaire was used to observe the changes of the HAMD Depression Scale and the NIHSS Central Nervous Injury Scale before and after treatment. The significance of the combination of Chinese and Western medicine in the treatment of post-stroke depression was analyzed.

**Key words:** post-stroke depression; Suanzaoren decoction ;Deanxit ; clinical observation index

Post-stroke depression (PSD) is the most common mood disorder after acute stroke, mainly characterized by loss of interest, decreased energy, decreased appetite, sleep disorders, low self-evaluation, self-blame, and even repeated self-harm, suicidal concept .China's latest epidemiological survey pointed out that the stroke death rate is the second in all types of lethal diseases. Post-stroke depression is the most common form of post-stroke complication. The reported incidence of post-stroke depression in foreign countries is between 30% and 70% [1]. Epidemological surveys of post-stroke depression have shown that the incidence of post-stroke depression is 30%-50%. [2]. The WHO survey shows that the incidence of post-stroke depression is between 22% and 60% [3]. Traditional Chinese medicine has a unique curative effect on the prevention and treatment of depression . Xia Hanxing[4] found that Suanzaoren Decoction can significantly improve psychotic depression symptoms such as loss of interest and decreased mobility in chronically stressed rats. Qi Junxiang et al [5] screened patients with clinical stroke according to the HAMD Depression Scale, and 33% of stroke patients met the post-stroke depression score. The period of post-stroke depression is exacerbated from half a year to two years after stroke, which is also the prime time window for post-stroke depression.

**Objective**

Through the combination of traditional Chinese and Western medicine treatment of post-stroke depression, combined with clinical biochemical indicators, observe the difference between the efficacy of western medicine Deanxit and traditional Chinese medicine Suanzaoren Decoction combined with western medicine Deanxit in clinical treatment of post-stroke depression, and the combination of Chinese and Western medicine for post-stroke depression Meaning. Provide a theoretical basis for clinical treatment.

**Methods:**

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Using clinical questionnaires and psychological interviews, 75 patients with post-stroke depression scores were screened out in the test population, and they were randomly divided into 3 groups. The treatment with western medicine was the treatment of 30 people in the new treatment group. Thirty-six people were treated with Suanzaoren Decoction combined with western medicine Deanxit, and the control group was not treated with antidepressant. Clinical observation of changes in the HAMD Depression Scale and NIHSS Central Nervous Injury Scale before and after treatment in patients with post-stroke depression. The statistical method was analyzed by SPSS22.0 statistical software. The measurement data were expressed by the mean standard deviation (x ± s). The variance analysis method was used to compare the values between groups. The paired t-test method was used to compare and reflect the values before and after the same group. Kruskal-Wallis test of magnitude of change. The difference was statistically significant at P < 0.05.

**Results and discussion**

1. Comparison of NIHSS scale scores on neurological function showed that all three groups were reduced, but there was no significant difference between the three groups.

2. The HAMD scores of depressive symptoms were compared. The results showed that the scores of the treatment group of Qilixin group and Lilixin combined with Suanzaoren decoction group decreased. Compared with the reduction of the score, the Lixinin combined with Suanzaoren Decoction group was superior to the Lilixin group.

Western medicine Deanxi, Suanzaoren Decoction combined with western medicine Deanxi is effective in treating post-stroke depression, which can significantly reduce the HAMD score; the combined HAMD score is greater than the Deanxi treatment group alone.

The diagnostic criteria for post-stroke depression in modern medicine in this study are not uniform and clear; the range of sample statistics for the incidence of post-stroke depression in modern medicine is small, and the sample statistical process lacks objectivity. The NIHSS neurological impairment scale can be used to rapidly screen out stroke patients, and to some extent, to reflect the degree of neurological deficits caused by stroke, but the measurement results do not all represent the severity of stroke in patients, nor can they be diagnosed patients. The only criterion for stroke. The use of the Chinese Mental Disease Classification Program and Diagnostic Criteria Fifth Edition (CCMD-5) can effectively improve the HAMD Depression Scale for the diagnosis of post-stroke depression. Deanxit is a new drug for treating post-stroke depression. Zheng Yongli [5] and other studies using Deanxi in the treatment of ischemic stroke rats found that Deanxi can increase the expression of TrkB and CREB in rats with post-stroke depression, enhance BDNF transcription, and effectively prevent post-stroke depression. In this study, we found that the Xinlinxin group had lower scores on the NIHSS neurological impairment scale and the HAMD depression scale, indicating that Deanxi can improve post-stroke depression, but this improvement is very limited. Clinically, Suanzaoren Decoction combined with Deanxi has more effective treatments for post-stroke depression. Liu Haifeng [6] and others have shown that Suanzaoren Decoction combined with Deanxi can significantly alleviate anxiety symptoms, especially for The Hamilton scale has a unique advantage in reducing scores and improving insomnia symptoms.

Study on the mechanism of american ginseng improving primitive follicle overactivation by interfering with the overexpression of mirna-190a-5p in premature ovarian failure rats

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Abstract

Objectives
Premature ovarian failure (POF) is a disease of gonad failure characterized by amenorrhea, hypoestrogenism and hypergonadotropism. We confirmed that miR-190a-5p was up-regulated in POF rat ovaries. The present study aimed to evaluate that American ginseng can improve primitive follicular overactivation by interfering with the expression of mirNA190a-5p and its target gene-related signaling pathway proteins in POF rats.

Materials and methods
Rats were administered 4-vinylecyclohexene diepoxide (VCD) for 15 days to induce POF. Additionally, POF rats were administered American ginseng (2.25 g/kg body weight, daily oral gavage) for one month. From each rat, one ovary was fixed in 4% paraformaldehyde for histology and immunostaining, and the other ovary was stored at -80 ºC for Western blot analysis.

Results and discussion
1. To determine whether VCD and/or American ginseng-treated affects the apoptosis levels of primordial follicles, we performed TUNEL staining analysis in the rat ovary after VCD treatment with or without American ginseng-treated. In the VCD alone treatment group, fluorescence-mediated TUNEL staining only identified apoptotic granulosa cells around the growing follicles; however, the addition of American ginseng attenuated the amount of TUNEL-positive granulosa cells in the secondary follicles.
2. To examine the molecular mechanisms of dormant follicle activation downstream of VCD treatment, we analyzed the miR-190a-5p pathway activation in the ovaries of rat following VCD treatment with or without American ginseng. Western blotting showed increased phosphorylation of major activation proteins, such as PHLP11, AKT, LHR, and FOXO3a in the VCD alone treatment group (P<0.05).

Keywords: Premature ovarian failure (POF); American ginseng; miRNA; gene expression

References:
**Distribution of Alismol A-24-Acetate in Insulin Resistance-Related Tissues of Rats**

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**Abstract. Objective**

A sensitive and reliable HPLC-MS/MS method was established to investigate the concentration, distribution characteristics and concentration changes of Alisol-A-24-acetate in liver, pancreas, fat and skeletal muscle of rats with insulin resistance.[1-2]

**Materials and methods**

Rats were given 5.4 g/kg of water decoction of Huaqizeren by gastric lavage, then sacrificed at 0.25, 0.5, 1, 2, 6 and 8 hours respectively. According to the analysis method of HPLC-MS/MS, the concentration of Alisol-A-24-acetate in the absorption phase, distribution phase and elimination phase in insulin resistance-related tissues was determined, and the distribution characteristics of Alisol-A-24-acetate in various tissues were observed.

**Results and discussion**

The results of histological examination showed that the precision, specificity, recovery, reproducibility and stability of the instrument met the requirements of biological sample analysis. It was suitable for the determination of Alisol-A-24-acetate in liver, pancreas, fat and skeletal muscle. The results of HPLC-MS/MS showed that Alisol-A-24-acetate rapidly entered the tissues of rats after intragastric administration of the decoction, but its concentration in the tissues was lower than that of other single drugs, and its distribution in fat, liver and skeletal muscle was relatively higher. Alisol-A-24-acetate was distributed in all tissues, which was beneficial to the pharmacological effect of Huaqizeren in the treatment of insulin resistance in type 2 diabetes mellitus.

**Key words:** citella; HPLC-MS/MS; distribution; Alismol A-24-Acetate; Alisma

**References:**


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**Experimental study on the establishment of rat ovarian premature aging model by cisplatin**

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**Abstract**

The incidence of premature ovarian failure has increased year by year, but its pathogenesis is still unclear. At present, there is no safe and effective treatment for the prevention and treatment of...
POF. The chemotherapeutic drug cisplatin can cause a significant decline in ovarian function in rats, follicular developmental disorders, and impaired reproductive capacity. In this study, SD rats sensitive to cisplatin drugs were selected as the research object to establish a POF model, which laid the experimental foundation for clinical treatment of chemotherapy-induced ovarian disease.

**Keywords:** cisplatin; premature ovarian failure; rat; animal model

Premature ovarian failure (premature ovarian failure, POF) refers to ovarian failure in women before the age of 40. In recent years, the incidence of POF has increased year by year, rising from less than 1% to about 3.5%. According to statistics, 4% to 18% of patients with secondary amenorrhea and 10% to 20% of patients with primary amenorrhea are diagnosed with POF. POF seriously affects women's physical and mental health and quality of life.

One of the reproductive system damage caused by chemotherapy drugs in women with cancer is ovarian injury. Cisplatin is one of the most commonly used chemotherapeutic drugs. Studies have shown that cisplatin can induce apoptosis of ovarian cells and cause tissue necrosis, leading to premature ovarian failure. This experiment establishes an animal model of chemotherapeutic premature ovarian failure based on this principle.

**OBJECTIVE**

To explore a method for establishing a chemotherapeutic ovarian premature aging animal model using the commonly used drug cisplatin.

**Materials and methods**

Sixty female SD rats with normal estrous cycle were randomly divided into normal group, low dose group and high dose group by observing vaginal exfoliated cells. The low- and high-dose groups were intraperitoneally injected with cisplatin at 4 mg/kg and 6 mg/kg once a week for 2 weeks to establish a model of chemotherapy-induced ovarian injury. The general condition, body weight, and estrous cycle of the rats were observed daily. The contents of E2, FSH, LH and Pro in serum were determined after taking the materials. Morphological changes of ovarian pathology were observed under light microscope.

**Results and discussion**

Rats presented with cisplatin showed bow back, contracture, slow movement, decreased appetite, and yellow body hair. Vaginal smear showed: estrus cycle disorder, vaginal relaxation, occasional bloody secretions.

Decreased sensitivity of follicles to FSH is an early sign of ovarian function decline. FSH levels have increased after modeling. E2 can promote follicular growth and improve ovarian function. E2 levels in serum are reduced after modeling, and high-dose group is more obvious, which naturally leads to follicular development and damage of ovaries.

Non-regeneration of primordial follicles leads to ovarian failure. The experimental results showed that the primordial follicles were seen in the high-dose group, the secondary follicles and mature follicles were significantly reduced, and the atresia follicles were significantly increased.

In summary, the experimental study of rats given different doses of cisplatin injection, ovarian function showed varying degrees of damage, and the high-dose group model is more ideal. The research advantage is that the success rate is high, the model is stable, the resources are easy to obtain, and the cost is low. It can be used as an animal model to explore the pathogenesis of premature ovarian failure.

**References:**

Melatonin prevents vcd-induced primordial follicle loss via suppression of phlpp1/akt/foxo3a pathway activation in the sd rat ovary

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Abstract
Objectives
Premature ovarian failure (POF) is a disease caused by the depletion of ovarian follicles in women before the age of 40[1,2]. To develop effective pharmaceutical agents for the treatment of premature ovarian failure, We investigated the effect of melatonin on the PHLPP1/AKT/FOXO3a pathway in animal models of POF using 4-vinylcyclohexene diepoxide (VCD) and explored the effect of melatonin on the PHLPP1/AKT/FOXO3a pathway, which to some extent indicated the role of melatonin in POF.

Materials and methods
Fifty adult female SD rats aged 2 months were randomly divided into five groups. Melatonin (5 or 10 mg/kg) was intraperitoneally injected into rat daily for 3 days, and VCD (80 mg/kg) with or without melatonin (5 or 10 mg/kg) was injected daily into the peritoneal cavities of rat for 15 days. Tissue and immunological staining, apoptosis assay and Western blot analysis were performed.

Results and discussion
1. The number of dormant primordial follicles was dramatically reduced in the VCD alone treatment group compared with controls, whereas co-treatment with melatonin significantly recovered the number of primordial follicles(P<0.05). 2. In the VCD alone treatment group, fluorescence-mediated TUNEL staining only identified apoptotic granulosa cells around the growing follicles; however, the addition of melatonin attenuated the amount of TUNEL-positive granulosa cells in the secondary follicles. The DAB-mediated TUNEL staining results showed that VCD-induced primordial follicle loss was not due to apoptotic cell death. 3. Western blotting showed increased phosphorylation of major activation proteins, such as PHLP1, AKT, GSK3β, and FOXO3a in the VCD alone treatment group. Whereas this increase was significantly reduced by co-treatment with melatonin(P<0.05).

Key words: POF; VCD; melatonin

References

Research of the pathogenesis of Alzheimer’s disease Caused by β-Amyloid

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Abstract
Alzheimer's disease (AD) is a progressive disease characterized by various dysfunctions, and its pathogenesis has not been clearly elucidated. In recent years, a large number of studies have been carried out on the pathogenesis of Alzheimer's disease at home and abroad. Researchers
believe that Alzheimer's disease is related to extensive hippocampal neuron damage, senile plaques and neurofibrillary tangles and other pathological changes. βAmyloid (Aβ) plays an important role in the occurrence and development of AD, and has always been a hot issue in AD research. This article describes how Aβ deposits in the brain leading to AD from two aspects: abnormal production and abnormal degradation of Aβ.

Keywords: β-Amyloid; Alzheimer Disease; pathogenesis

Under normal circumstances, only a small amount of Aβ is expressed in the brain. A small amount of Aβ plays a certain nutritional role in the undifferentiated and immature neurons. However, in the brain of AD patients, the expression of Aβ is significantly increased, and excessive and deposited Aβ has a significant toxic effect on the differentiated and mature neurons. Abnormal production and degradation of Aβ may lead to the deposition of Aβ in the brain.

Objective

Alzheimer's disease is characterized by progressive development of cognitive and memory impairments. AD seriously affects the daily life and work of patients. By 2050, the number of AD patients in China will be close to 20 million, which will bring enormous psychological and economic pressure to families and society. Aβ is the key content in the pathogenesis of AD. This article introduces how Ab is deposited in the brain and summarizes the mechanism of Aβ.

Materials and methods

Firstly, articles about the pathogenesis of AD in recent years were collected, and Aβ was selected. After careful reading, the conclusion how AB is deposited in the brain was discovered and summarized by these articles. The above articles were retrieved from the Internet CNKI, PubMed, etc.

Results and discussion

Amyloid precursor protein (APP) is a special transmembrane glycoprotein. Under the action of β-secretase, it can produce Aβ 1-40 or Aβ 1-42/43 after cutting by γ-secretase. Aβ1-42 has strong toxicity and hydrophobicity, and is easy to accumulate and deposit[1]. Abnormal production of Aβ results in the deposition of Aβ in the brain.

The clearance of Aβ in the brain mainly depends on the degradation of Aβ-degrading enzymes, the clearance of intracellular lysosomes and the clearance of Aβ by blood-brain barrier. Aβ-degrading enzyme (ADE) is a series of enzymes. neprilysin (NEP) and insulin degrading enzyme (IDE) are the main enzymes to degrade Aβ. In vivo and cell culture experiments showed that the decrease of NEP level led to the increase of Aβ level, and the activity of IDE in the brain decreased with the decrease of brain pH[2]. The scavenging effect of cells mainly depends on the role of microglia and astrocytes. There are two main functional forms of microglia. M1 type has neurotoxic effect, M2 type has neuroprotective effect, and can engulf and remove Aβ. With the increase of age, M1 type continued to activate and M2 type was inhibited continuously, thus losing its protective effect[3]. Apolipoprotein E (Apo E) and low-density lipoprotein receptor-related protein 1 (LRP-1) are two important proteins for astrocyte to clear up the phagocytosis of Aβ[4]. LRP1-mediated endocytosis regulates cell uptake of Aβ through direct or indirect binding with its receptor or ligand. In addition, LRP1 regulates several signaling pathways, which may also affect the Abeta internal circulation pathway[5]. A beta binds to receptors on the blood brain barrier (BBB) and transfers to the blood through BBB. LRP-1 and P-gp play an important role in this process. The expression of LRP-1 decreases with age, which affects the deposition of Aβ, and the deposition of Aβ leads to the decrease of P-gp’s expression[6]. Meyer-Luehmann injected Aβ extract from the brains of AD patients into APP transgenic mice, which caused β-amyloidosis in the brains of mice. They believed that Aβ was similar to prion virus[7]. However, some scholars believe that Aβ is a congenital immune protein. When infected by the virus, Aβ protects the brain by depositing resistance to the virus[8]. The abnormal degradation of Aβ results in the deposition of Aβ.

References:


Effect of Shaqi Granule on NF-κB、IKB-α Protein Expression in Renal Tissue of Diabetic Nephropathy Rats

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Abstract
Diabetic nephropathy (DN), refers to the renal injury caused by diabetic microvascular disease, which leads to renal failure, which is the main cause of death and disability of diabetes. Shaqi granules has the therapeutic effect of DN and related diseases experience exactly. This study showed that Shaqi granules can significantly improve renal damage in rats with diabetic nephropathy. The molecular mechanism could be related to Shaqi Granules participate in inhibiting NF-κB、IKB-α protein expression.

Key words: Shaqi Granules, Diabetic Nephropathy, NF-κB, IKB-α

Objective
To clarify the effect of Mongolian Drug New Drug Shaqi Granule on renal injury in diabetic nephropathy (DN) rats, and to explore the molecular mechanism of Shaqi Granules modulating NF-κB signaling pathway.

Materials and methods
Model rats were given intragastric fat emulsion for 32 consecutive days and the intragastric administration dose was 10 ml/(kg·d). After the last intragastric administration of fat emulsion, animals were fasted for 12 hours and were given intraperitoneal injection of streptozotocin (STZ) 40 mg/(kg·d) for 2 consecutive days. Blood glucose was monitored after 72 hours. Fasting blood glucose ≥16.7 mmol/L hyperglycemic rats were selected to further maintain the hyperglycemic state of the rats for 4 weeks, and urinary protein was detected. Rats with urinary microalbumin higher than 20 mg for 24 hours were selected as the DN model. Western-blot detection of NF-κB and IKB-α protein expression levels in kidney tissue.

Results and discussion
Compared with the model group, the expressions of NF-κB and IKB-α protein in renal tissues of rats in each administration group decreased to varying degrees. The mechanism of Shaqi
Capsule in improving kidney injury in DN rats may be related to the inhibition of NF-κB and IKB-α protein expression and further inhibition of NF-κB signaling pathway in DN rats.

References:

Application of Network Pharmacology in Traditional Chinese Medicine

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Abstract
Network pharmacology is a combination of systems biology, bioinformatics and many other emerging interdisciplines. It uses molecular docking technology to explain the interaction law and mechanism between drugs and targets from the perspective of biological networks. It is a research method with characteristics such as system prediction and dynamic analysis, which is consistent with the traditional Chinese medicine(TCM) system treatment and syndrome differentiation. Network pharmacology has revolutionized the concept of traditional new drug research and development led by “one drug, one target, one disease”. And has had a profound impact in the field of Chinese medicine research[1]. There are many applications of network pharmacology in the field of TCM, including predicting the target of Chinese medicine, exploring the mechanism of compatibility of TCM and the mechanism of action of compound Chinese medicine, and the pharmacological mechanism of TCM.

Keywords: Network Pharmacology, Traditional Chinese Medicine
Salvia miltiorrhiza Bunge is a natural medicine used for anti-cancer, anti-inflammatory and anti-oxidation effects. It has been shown to be useful in the treatment of bone diseases. Li et al. used bioinformatics databases and network pharmacology studies to discover Danshen's cryptotanshinone can affect the myelofibrosis MF by acting on key genes in the JAK-STAT signaling pathway and TGF-β signaling pathway. Quercetin has anti-proliferative effect on gastric cancer[2]. Zeng et al. found that CYP1, A1FOS,JUN, EGR1, AHR and WNT7B may be the targets of quercetin in the treatment of gastric cancer through network pharmacology. In order to make better use of network pharmacology, we should continue to research, innovation, and strive for the development of Chinese medicine.

References:
Role and mechanism of glutamine metabolism in colorectal cancer

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Abstract:
Colorectal cancer is a common malignant tumor of large intestine epithelium and gland with unclear pathogenesis. Glutamine metabolism meets the energy demand of cancer cells during malignant proliferation and fundamentally affects the occurrence and development of cancer. This article discusses the role of glutamine metabolism in colorectal cancer and focuses on the potential therapeutic methods of glutamine metabolism in colorectal cancer.

Keywords: colorectal cancer, glutamine, glutamine metabolism, targeted treatment

Glutamine metabolism is crucial to the occurrence, proliferation, and metastasis of tumors. It plays a major role in balancing redox homeostasis, signal pathway, apoptosis and autophagy.

Peimine, derived from Fritillaria thunbergii is commonly used in cancer treatment. The scholars have found that the levels of amino acids in colorectal cancer cell after adding peimine were significantly increased, especially the levels of fumaric acid, malic acid, and various γ-glutamyl amino acids, which stimulate the activity of mTOR, further activate PI3K/Akt/mTOR pathway, and finally achieve the purpose of inducing cancer cell apoptosis and autophagy [1]. The c-Myc oncogene is considered as a new target for anti-cancer strategy. Morin and/or esculetin mainly rely on the β-catenin/c-myc signaling pathway in treating colorectal cancer rats, and affect glycolysis and glutamine metabolism at the same time [2].

Treatment of colorectal cancer may include deprivation of glutamine metabolism, prevention of glutamine transporter transport, or inhibition of glutamine/glutamate dehydrogenase activity to activate PI3K/Akt/mTOR pathway. Therefore, modification of glutamine metabolism in colorectal cancer is expected to improve the efficacy of traditional Chinese medicine in the treatment of colorectal cancer.

References:

Pathological Mechanism and Treatment of Diabetic Nephropathy

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Abstract
Diabetic nephropathy (DN) is one of the most serious microvascular complications of diabetes. There are no specific drugs for controlling diabetic nephropathy in clinic. Signal pathways play an important role in the mechanism of DN. Interventions in the signaling pathway may provide new directions for their treatment. The current DN-related signaling pathways include TGF-β/Smad, NF-κB, Notch, MAPK and JAK/STAT signaling pathways. The latest research found that Chinese medicine has a certain role in the treatment of DN. Therefore, this article reviews the related signaling pathways in DN and the intervention effects of traditional Chinese medicine.
Key words: Diabetic nephropathy, signaling pathways, traditional Chinese medicine.

Diabetic nephropathy (DN) is the most common microvascular complication of diabetes mellitus, which eventually leads to end-stage renal disease (ESRD). The characteristic pathological features of DN include albuminuria, extracellular matrix (ECM) aggregation and podocyte damage, glomerular and tubular basement membrane thickening, and renal fibrosis and sclerosis. In recent years, the research on DN-related pathways has been increasing. Among them, the improvement of DN by traditional Chinese medicine (TCM) has attracted wide attention. Therefore, this article will review the DN-related pathways and the prevention and treatment of TCM.

1 Pathways of DN

1.1 TGF-β Pathway

Activation of the TGF-β1/Smad signaling pathway promotes deposition of ECM components and inhibits their degradation, leading to renal tissue sclerosis. In addition, TGF-β1/Smad signaling pathway can also induce the transformation of renal tubular epithelial stromal cells, which leads to the synthesis of key proteins and various collagens of extracellular matrix, resulting in extracellular matrix deposition of tubulointerstitial. It also regulates changes in EMT-related genes, which can damage the structure of the podocytes and lead to the production of large amounts of proteinuria.

1.2 TLR/NF-κB Pathway

The NF-κB pathway is one of the major signaling pathways of DN, and the TLR4/NF-κB signaling pathway is an important mechanism regulating immune and inflammatory responses. In DN, TLR4 triggers the rapid activation of nuclear factor-κB (NF-κB) and inflammatory cytokines (IL-18, IL-6 TNF-α and MCP-1), which leads to the accumulation of ECM, ultimately leading to glomerular Hardening and renal fibrosis.

1.4 Notch Pathway

Notch pathway is involved in the regulation of cell differentiation, proliferation and apoptosis. The Notch pathway activated in DN accelerates the progression of DN primarily by promoting podocyte injury and apoptosis in the kidney. The activated Notch pathway causes damage and apoptosis of podocytes, which leads to severe proteinuria and glomerular sclerosis.

1.5 MAPK Pathway

Recent studies have shown that the p38MAPK signaling pathway increases DN-related components such as MCP-1, TGF-β, VEGF, fibronectin and collagen by pro-inflammatory and pro-fibrotic reactions, thereby aggravating DN.

1.6 JAK/STAT Pathway

The Janus kinase (JAK)/signaling factor and transcriptional activator (STAT) pathway play a key role in immune and inflammatory responses by promoting signaling by different cytokines and other molecules. Activation of the JAK/STAT pathway promotes the production of IL-6, TNF-α and MCP-1, TGF-β1 and other inflammatory factors and cytokines, leading to tubulointerstitial extracellular matrix deposition and tubular fibrosis, thereby transforming for the end stage kidney disease.

2 Chinese medicine treatment of DN

In recent years, many Chinese medicines have achieved certain research results in the treatment of DN. For example, Astragalus membranaceus extract can inhibit the activity of p38-MAPK pathway, reduce oxidative stress and inhibit podocyte apoptosis. Tripterygium wilfordii extract can inhibit inflammatory signaling pathways such as NF-κB and p38 MAPK, and reduce cytokine levels such as TNF-α, IL-1β and MCP-1. In addition, podocytes can also be protected. Poria cocos skin extract tanshinone IIA can promote rat podocyte proliferation, and its mechanism may be related to its down-regulation of TGF-beta 1 expression, inhibition of fibrosis and reduction of ECM production.

3 Discussion

The DN mechanism involves multiple pathways, and the path is not isolated, but has a complex crosstalk mechanism. Each pathway is linked together by various cytokines, inflammatory factors, blood glucose, and other factors to cause various pathological manifestations of DN. The
intervention of TCM on signaling pathway provides a new direction for the treatment of DN, but it still needs to be deepened and strengthened to find a target to slow down or even prevent the progression of DN.

References

Application of Chinmedomics in Traditional Chinese Medicine Toxicity

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Abstract
The toxicity and safety of traditional Chinese medicine (TCM) have been of great concern in recent years. Chinmedomics is consistent with the overall concept of traditional Chinese medicine, and it shows great potential in the study of the efficacy and toxicity of traditional Chinese medicine. In this paper, the application of metabonomics in the quality analysis and evaluation of traditional Chinese medicines was analyzed from the aspect of toxic Chinese medicines, and the application of metabonomics in toxicity assessment of traditional Chinese medicines was discussed.

Key words: Chinmedomics, toxicity, traditional Chinese medicine

1. Introduction
Traditional Chinese medicine (TCM) is a combination of many compositions, while Chinese herbal compound prescription is formed by many drugs in accordance with compatible regulation, which plays an integrated and regulatory role. Due to the complexity of the ingredients, it has the certain difficulty to study the toxicity of traditional Chinese medicine formulations. At the same time, the security and adverse reactions of TCM has caused more and more attention in the community. So it is urgent to develop some effective research methods, to accurately evaluate the toxicity of TCM from the overall angle. Chinmedomics is a systematic approach to study the regularity of metabolites, it uses serum pharmacochemical analysis of traditional Chinese medicine to identify the inner-body components highly associated with the disease[1]. And rapidly reveal and amplify the abnormal changes of endogenous small molecule metabolites, screen the toxic components and identify the biomarkers of toxicity of traditional Chinese medicine. The technical characteristics of high throughput, high resolution and high sensitivity make Chinmedomics show its unique advantages of integrity and systematicness in toxicity evaluation of traditional Chinese medicine[2].

2. Study on toxicity of traditional Chinese medicine
Wang et al. found that continuous administration of high dose Zhi-Zi-Hou-Po decoction (ZZHPD) can induce hepatotoxicity, after treating with ZZHPD for consecutive 30 days. Combined with biochemical analysis, histopathological examination and blood metabolomics of rats, results showed that the accumulation of geniposide in liver tissues may be one of the main factors leading to hepatotoxicity. And 20 potential endogenous metabolites related to lipid metabolism and amino acid metabolism in plasma samples were identified by LC-MS/MS-based method\textsuperscript{[3]}.

Xie et al. used the method of metabonomics to explore the mechanism of synergism and toxicity reduction of Radix Aconiti Lateralis (FZ) and Radix Paeoniae Alba (BS) in the treatment of rheumatoid arthritis in rats. The possible metabolites and pathways were identified by using approach of UPLC LTQ/Orbitrap MS with non-targeted metabonomics, as a result, 17 biomarkers were identified. Pathway analysis showed that the therapeutic dose of FZ liposoluble alkaloids could regulate energy metabolism and amino acid metabolism disorder in rats. However, the toxic doses may lead to disorders in the metabolism of benzoic acid, lipid, amino acids and energy. What's more, the total glucosides of peony can regulate the disorders of bile secretion, lysine, pyrimidine, and arginine metabolic induced by drug toxicity - induced liver injury return to a favorable level \textsuperscript{[4]}.

Zhang et al. studied aconite alkaloids and the related endogenous metabolites to explore the toxicity mechanism of Aconitum kusnezoffi (CW). Six of the 18 alkaloids detected in the serum of the patients were toxic diterpenoids. Through a combined application of UHPLC-Q-TOF/MS with DIAAA derivatization and metabolomics analysis, a total of 32 metabolites were identified after CW poisoning. Significantly, dicarboxylic acids and Hetes were related to the toxicity of aconit alkaloids, which mainly involved in metabolism of amino acid, FA, pyruvate, sphingolipid, arachidonic acid and TCA cycle\textsuperscript{[5]}.

3. Conclusion
Chinmedomics is based on the metabonomics, transformed the traditional evaluation model into modern evaluation mode based on scientific methods and standards, which makes the research of traditional Chinese medicine more scientific, normative and standard. It overcomes the disadvantage that traditional toxicology research can not reflect the changes of endogenous metabolites related to toxicity in an integrated and dynamic way. It has a good application prospect in the toxicity analysis of traditional Chinese medicine and provides further reference for safety and rationality of clinical medication.

References:
Pathological Mechanism of Rheumatoid Arthritis

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Abstract
Rheumatoid arthritis (RA) is a chronic, progressive, invasive rheumatic immune disease characterized by symmetric polyarthritis. RA not only has autonomic nervous system dysfunction, but also involves various systems such as heart, lung, kidney, nerve and blood vessels, which eventually leads to synovial hyperplasia and bone destruction, affecting patients' health and quality of life to varying degrees. The pathogenesis of rheumatoid arthritis (RA) is a complex situation that has not been fully elucidated to date. This article summarizes the mechanisms of bone destruction in RA patients and provides a theoretical basis for clinical research and treatment.

Key Words: Rheumatoid arthritis; synovial hyperplasia; bone destruction; pathogenesis

Mechanism research
The pathological changes of rheumatoid arthritis are closely related to various cytokines and cartilage protein degrading enzymes. RF is a rheumatoid factor with low specificity and high specificity for CCP-Ab. The combination of the two is an important basis for clinical diagnosis. IL-1 and TNF-α may be the starting factors for osteoarthritis. The level of IL-1 in normal cartilage is extremely low, but IL-1 levels are significantly increased during the onset of osteoarthritis. IL-1 induces the synthesis of MMP-3 by breaking the balance between TIMP and MMP-3. MMP-3 can promote the high-resolution cleavage of proteoglycans in the cartilage matrix, eventually forming damage to articular cartilage [1,2]. In this pathological process, TNF-α and IL-1 have a high synergistic effect, TNF-α can promote the synthesis of IL-1, and IL-1 can induce the expression of TNF-α. Both form a vicious circle that exacerbates the inflammatory response of the synovium and the degradation of cartilage. In addition, overexpression of IL-6 promotes T0-T17 differentiation, resulting in IL-17 causing bone destruction[3]. Clinical studies have also confirmed that TNF-α levels in serum and synovial fluids are significantly elevated in patients with osteoarthritis and are positively correlated with the severity of arthritis. As shown in Figure 1.

In the early stages of RA disease, increased PAD activity increases the expression of citrullinated autoantigens in mature osteoclasts, ACPA recognizes antigens, and activates osteoclasts to secrete interleukin-8 (IL-8), which further promotes Osteoclastogenesis[4,5]. Cell development and maturation activates osteoclasts into self-circulation, such as positive feedback; IL-8 activates sensory neurons by binding to CXC chemokine receptors (CXCR1 and CXCR2), producing joint pain. At the same time, transplantation of ACPA into mice induced complete reversal of bone loss by IL-8 antagonists [6]. This suggests that IL-8 may be the main effector molecule of RA osteoclast activation. At the same time, a large number of pro-inflammatory factors on the synovial membrane induce RANKL by activating NFkB, thereby effectively promoting the maturation of osteoclasts, leading to bone erosion. Exploring this pathway can explain the trend of bone and joint damage in RA patients.

Conclusion
The primary pathogenesis of RA stems from the interaction between genetic and environmental factors, leading to intrinsic and adaptive immune responses as well as systemic inflammation. This article summarizes the mechanism by which RA patients can cause bone destruction. For RA, it is only the tip of the iceberg. Despite recent advances in this area, most observations need to be confirmed in other studies and are not comprehensive. With the deepening of the research, it is hoped that the comprehensive mechanism of RA can be realized, which provides an important theoretical basis for laboratory diagnosis and clinical treatment of RA.
Figure 1. Rheumatoid arthritis bone destruction mechanism

References
Recent Applications and Research Progress of Chinmedomics

Nan Ge, Aihua Zhang, Hui Sun, Guangli Yan, Ying Han, Xiaohang Zhou, Xijun Wang*
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Abstract
Chinmedomics as a new subject in the field of traditional Chinese medicine (TCM) research. Due to it can evaluate the effectiveness of TCM, and discover the pharmacodynamic substance basis of TCM prescription, it has been widely used in the field of TCM research in recent years. This paper described the core technology and connotation of Chinmedomics, and introduced its latest research progress and application. At the same time, we discussed the issues that we focused on and the future direction of development in the research process of Chinmedomics.

Key words: Chinmedomics, Traditional Chinese Medicine, Latest Application

Introduction
Chinmedomics was officially presented by Wang in 2012 and published in OMICS Magazine. Chinmedomics includes four novel technologies: ① discovery technique for biomarkers of TCM syndromes or diseases; ② techniques for evaluating disease treatment effects; ③ identification techniques for active components in vitro and in vivo; ④ correlation between exogenous components and endogenous biomarkers analytical skills[1]. The detailed description of its core technology and connotation is as follows: starting from TCM syndrome or disease to solve the biological essence of syndrome or disease by using metabolomics technology. Then the biomarkers of syndromes or diseases and their metabolic networks were found and established to objectively recognize and evaluate syndromes or diseases. On this basis, the animal model of syndromes is bridged by biomarker groups of syndromes or diseases, and a biological evaluation system of prescription effects is put in place to standardize the therapeutic effects of prescriptions. Under the premise of effectiveness, through the integration of research, the serum pharmchemistry of TCM (SPT) method is used to determine the effective form of the direct acting substance in the body, and the exogenous drug component in the body is associated with the endogenous syndrome or disease marker. Therefore, in the correlation between the serum drug component and the quantitative change of the metabolic marker, the in vivo pharmacodynamic substance basis of the TCM is found (PCMS technology), thereby clarifying the synergistic mechanism of the multi-component and multi-target of the TCM prescription[2]. As a result, Chinmedomics can promote the accurate diagnosis of syndromes and diseases, more effectively mine the great treasure house of Chinese medicine, and provide new methods and innovative strategies for improving the scientific value of TCM.

Progress and Application of Chinmedomics
Yinchenhao decoction (YCHD) has been used clinically for the treatment of various liver diseases for thousands of years, especially in the treatment of damp-heat jaundice syndrome (DHJS). Chinmedomics was utilized to explore the potential quality-markers (Q-markers) of YCHD. Sun used high-sensitivity UPLC-MS technology had identified 69 compounds in YCHD, 41 of which were absorbed into blood. Finally, nine core compounds were identified as Q-markers responsible for YCHD efficacy[3].

Alzheimer's disease (AD) is an irreversible neurodegenerative disease. Kaixin San (KXS), a commonly used TCM prescription for the treatment of mental illness. Modern clinical research shows that it has various pharmacological effects such as improving sleep, protecting nerve cells, anti-depression and preventing AD. Wang used the Chinmedomics method to carry out the Q-markers study of the therapeutic effect of KXS on the APP/PS1 transgenic mouse model. Wang found that KXS retrieved 20 potential biomarkers and 4 metabolic pathways related to AD, 27 KXS
components were found in serum samples. Four components of KXS were highly correlated with the therapeutic effect in PCMS correlation analysis, were considered as potential Q-markers [4].

Shengmai San (SMS), a representative prescription for treating deficiency of both Qi and Yin in Asia. The prescription includes Ginseng Radix (Panax ginseng C. A. Mey.), Ophiopogonis Radix (Ophiopogon japonicus (Linn. f.) Ker-Gawl.), and Schisandrae Fructus (Schisandra chinensis (Turcz.) Baill.). Modern pharmacological studies have shown that SMS can improve cognitive function. Zhang proved that SMS has therapeutic effect on APP/PS1 AD mice, and SMS treatment can retrieve 34 potential urine markers; 17 components were detected in blood, including 14 prototype components and 3 metabolites; correlation analysis showed that 8 components were closely related to the protective effect of total saponins of Astragalus membranaceus and were considered as potential Q-markers [5].

Discussion
The continuous research and application of Chinmedomics can help us find the Q-markers of Chinese herbal medicine and prescriptions, biomarkers of syndromes or diseases, and further search for disease-related metabolic pathways, which can promote accurate diagnosis of Chinese medicine and accurate evaluation of prescription treatment effects. However, through the biological information we found, such as Q-marker, biomarkers, metabolic pathways, how to focus on target proteins and therapeutic targets, how to fully and comprehensively explain the mechanism of TCM to the world is the direction to work hard. In short, due to the therapeutic characteristics of multi-component and multi-target of TCM, Chinmedomics has enormous advantages in the research of TCM.

Mass spectrum (MS) and nuclear magnetic resonance (NMR) are the two most commonly used analytical techniques in metabolomics. The massive data generated by high-throughput, high-precision analytical instruments are often characterized by high dimensions and complex correlations. In the in-depth study of Chinmedomics, how to make full use of these massive data, mine data deeply, and then find the scientific results are an important issue to focus.

References:

Research Progress and Future Prospects of Metabolomics in Acupuncture

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Abstract
Acupuncture, most popular complementary and alternative therapies, have been used for thousands of years in China. Currently, they are increasingly used over time because of their lower costs and safety for clinical use. It is vital and necessary to explore the underlying biological mechanisms of acupuncture. Metabolomics has become practically available and resembles acupuncture in many aspects and is a current key technology that serves as the major driving force for translation of acupuncture medicine revolution into practice, will advance acupuncture therapy into healthcare for individuals. This paper focuses on the correlation between acupuncture and metabolomics and its future prospects.

**Key words:** Acupuncture, Metabolomics, Traditional Chinese Medicine

Acupuncture, an ancient traditional Chinese medicine therapy, has been used to treat various diseases and symptoms for more than 2500 years\(^1\). Acupuncture has been practiced in many western and Chinese countries and a diverse variety of conceptual models and styles of clinical practice and techniques have developed. According to Traditional Chinese Medicine (TCM) theory, Qi flows along the networks, paths or channels in the human body. Each pathway has a series of acupoints, forming meridian system, which is partly related to visceral function and its physiological or pathological state. By acupuncture stimulation of acupuncture points (with or without subcutaneous tissue penetration), the purpose of regulating organ or body function can be achieved by changing the flow of Qi in the meridian system. Whether in classic or contemporary Chinese medicine practice, the imbalance of Yin-Yang in the circulation of Qi is considered to be the root cause of disease. Therefore, acupuncture treatment at certain points can restore balance in the body and alleviate symptoms\(^2\).

As an exogenous stimulus, acupuncture treatment induces changes in information transmission and biochemical regulation networks by stimulating different tissue structures (skin, muscle, blood vessels, nerves, etc.) of the organism. Its function has the overall characteristics of multi-channel, multi-level and network. In the past, research methods of acupuncture mechanisms have been studied by single or multiple pathways and one or more target research methods, but it is often difficult to cover all acupuncture signaling systems\(^3-5\). The past micro-research methods often lose other important information in the effect of acupuncture while obtaining a set of effective information. Therefore, acupuncture research urgently needs more comprehensive methods and techniques that conform to the essence of traditional Chinese medicine theory to explain.

Metabolomics is the end of the "omics" chain of genomics-transcriptomics-proteomics-metabolomics. Metabolomics is concerned with small molecular metabolites of various metabolic pathway substrates and products, reflecting changes in the metabolic response of cells or tissues under external stimulation or genetic modification, and can reflect the functional status of the body as a whole. Therefore, metabolomics can more accurately reflect the state of biological systems than other omics\(^6\). The systematic view of metabolomics is in line with the holistic characteristics of TCM theory. In addition, another important feature of metabolomics is to find a specific group of metabolic markers instead of a single biomarker, which in turn reflects information on all metabolites in the test sample, and is related to the rapid development of metabolic networks in contemporary times. It also meets the needs of multi-target, multi-level and multi-target research of acupuncture\(^7\). Therefore, introducing metabolomics into the study of acupuncture can not only identify potential biomarkers of diseases and have a deeper understanding of pathophysiological processes, but also provide more scientific and more consistent evidence for basic research of acupuncture, and reveal the scientific connotation of acupuncture comprehensively and systematically, and provide new ideas and methods for basic research of acupuncture\(^8\).

Metabolic analysis is currently still at an early stage of development and its capabilities has not been fully demonstrated as well as genomics and proteomics analysis. With the growing numbers of highly diverse biomolecules being analyzed, advances in this field will be more conducive to medical research, yet the current challenges are broad. Information carried by metabolites is not limited to their origins and may be more relevant to the distal effects of acupuncture and may lead to the development or optimization of potential therapeutic analyses. The integration of molecular, clinical, physiological, imaging and functional genomics data leads to
networks that may be helpful in assessing the nature of meridians and the effectiveness and mechanism of acupuncture therapy\[^{[11]}\]. The future goal of metabonomics is to validate existing biomarkers from the perspective of mechanism and translation, while focusing on the characteristics of individual healthcare. Metabolomics will pave the way for a better understanding of disease mechanisms and ultimately promote the development of acupuncture medicine in the 21st century. The rapid advances in systems biology are making these dreams come true, perhaps it is time to greet the arrival of the era of systems biology acupuncture\[^{[9,10]}\].

**References:**


**Animal Models Preparation of Thromboangiitis Obliterans**

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**Abstract**

The key factor of etiologic research thromboangiitis obliterans (TAO) is the development of TAO animal model. So far, rats were the best selected animal and the methods of tobacco sensitization, coldaspic, injecting immune complex of TAO were better for making models, but the above methods had a long modeling time. Method of injecting lauric acid into atreia cruralis was
most related to the clinical pathological changes, and was widely used in the research on pharmacology activity and efficacy evaluation.

**Keywords:** Thromboangiitis Obliterans, lauric acid, Chinmedomics

Thromboangiitis obliterans (TAO) is a common chronic arteriosclerotic disease of the peripheral arteries. There is no experimental animal model that can completely simulate the coincidence with human TAO. In this paper the establishment of TAO rats model injected lauric acid into atreia cruralis is intended to provide a reliable method for replication of this animal model, and to explore the pathogenesis of the disease.

**Objective**
To establish animal model with TAO assessed in Chinmedomics\(^1\).

**Materials and methods**
Male Wistar rats were randomly divided into three groups(twelve animals per group) as follows: ( I ) normal group; ( II ) sham operated group; (III) vasculitis (TAO model) group. The rats were banded for 12 hours before surgery. The left hind leg was shaved and the femoral artery was exposed by surgical incision and retraction of muscles. Sodium laurate solution(10 mg·mL\(^{-1}\) in normal saline, adjusted to pH 8.0,0.1mL peranimal) was injected into the left femoral artery while the sham operated group were treated with normal saline as vehicle. After the surgery, the penicillin is given 400,000 intraperitoneal injection to prevent infection\(^2\). After modeling blood was collected from the heart of the rat every day. Then the blood samples were analyzed by ultra high performance liquid chromatography-mass spectrometry.

**Results and discussion**
The result showed method of injecting lauric acid into atreia cruralis to establish rats model with TAO is simple to operate, has good maneuverability, high success rate. In this study rats model with TAO was assessed in Chinmedomics firstly to provide a scientific basis for the evaluation system of animal models.

**References:**

**Progress in Vertigo Treatment with Traditional Chinese Medicine**

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**Abstract:** Vertigo, as a kind of spatial location disorder disease, is a common clinical disease, its induced mechanism is numerous, can be treated through the idea of dialectics of Traditional Chinese medicine, the use of traditional Chinese medicine to treat different types of vertigo, has better efficacy.

**Keywords:** Vertigo; Traditional Chinese medicine; Progress; Summarize.

Vertigo, a spatial location disorder, is a complex symptom caused by pretrial neurological lesions induced by the disorder of the human balance system\(^1\), its production is related to the central nervous system of the brain, the vestibular system of the inner ear, the vascular system, etc.\(^2\).

1. The disease and evidence type of vertigo
Vertigo can be divided into two types of virtual reality, real-type glare is due to wind, sputum, heat, virtual vertigo is mainly air-based. Modern vertigo is divided into vestibular vertigo and non-vestibular vertigo according to qualitative classification.

2. Dialectical Treatment of Traditional Chinese Medicine

2.2 Therapeutic effect of single drug

When the wind evil into the glare, the use of xin-warm antidote, heat medicine, rheumatic medicine, flat liver anti-wind medicine and so on. When glared by sputum evil, use sputum to stop coughing and breathing medicine. When glared by heat evil, the use of heat medicine, sputum cough flat wheezing drugs mainly. When the glare due to false, such as gas, kidney virtual, blood virtual to supplement the main.

2.3 Therapeutic Effect of Chinese Herbal Medicine Prescription

The traditional alone for the treatment of vertigo, such as Zeao soup, hemp hook rattan drink, jinyu kidney gas pills, spleen soup, eight rare soup, four-thing soup, tonic gas soup, half-summer white art hemp soup, when the blood soup, etc, for the treatment of vertigo is very obvious effect.

2.4 Treatment of Vertigo by Adding and Reducing and Compatibility Proportion of Chinese Herbal Medicine Group

2.4.1 BPPV

BPPV is a common cause of vertigo in the ear and neurology. It is characterized by repeated transient vertigo episodes when the patient changes its position. The choice of semi-summer white art hemp soup is to use its spleen and stomach, sputum wet, dredging liver depression, so as to treat benign positional vertigo. The selection of JinjiZe soup particles can improve the benign ventrity positional vertigo of the lower heart drink type, which has a better effect on reducing the degree of disability and vestibular function of vertigo.

2.4.2 Vertigo of Vertebrobasilar Insufficiency

Through modern clinical studies, it has been found that the occurrence of severe thorades in the brain arteries causes dizziness, and the occurrence of vascular abnormalities and clottedness in the vertebral base arteries is most common. The use of sun also five soup combined with electric needles to treat vertebral artery-type cervical disease vertigo, because the sun also five soup special treatment "due to false radon" to supplement the main gas, but also can live blood flow. The use of semi-summer white art hemp soup Heze diarrhea soup to treat the vertebral base artery blood supply caused by dizziness caused by dizziness vertigo vertigovertigo, can reduce blood viscosity, thereby improving the vertebral base artery blood supply.

2.4.3 Meniere Disease

Menier disease belongs to the inner ear disease, is a frequent recurrent disease, with hearing loss and tinnitus as the main symptoms, the disease mechanism is the rise of internal lymphpressure. Treatment of patients with sputum turbid disturbance menine disease by using Zeadededauphintong to reduce the treatment of patients with sputum turbid disturbance menier can improve the therapeutic effect, reduce the number and time of seizures, and improve vertigo symptoms.

3. Summary

Vertigo as a common disease and multiple morbidity in today's society, can occur in many types of diseases, belong to the common symptoms, but because the complex of the disease of vertigo is difficult to determine, the possibility of complete cure is very small, but according to the results of the treatment of different types of classical prescriptions, we can draw the efficacy of Chinese medicine dialectical treatment of vertigo. The prospect of using Chinese medicine to treat vertigo is extensive and has remarkable efficacy, and we should deepen our profound research and carry forward the cause of Chinese medicine in our motherland.

References:
Advances in Metabolomics for Evaluating Chinese Medicine Toxicity

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Abstract
The component of Chinese medicine (CM) and its formulas is complex, as well as some poisonous
plants, animals and minerals are also used as CM in clinical treatment, have led to doubt on the
safety of CM and restricted the development of traditional Chinese medicine (TCM). As an
important part of system biology, metabolomics is highly similar to TCM theory in its integrity and
dynamics. It has become one of the important methods to evaluate the safety of CM to study the
dynamic changes of metabolites after the stimulation of CM and to clarify the overall toxicity of
CM. In order to better understand the contribution of metabolomics to the study of CM toxicity, this
paper summarizes the common analytical techniques of metabolomics in recent years and its
research status in the toxicity evaluation of CM.

Key words: Chinese medicine, metabolomics, toxicity

Overview of metabolomics analytic techniques
The high-throughput analytical technology platforms are an essential for metabolomics testing
including nuclear magnetic resonance spectroscopy, mass spectrometry, chromatography and
spectroscopy. Among them, nuclear magnetic resonance (NMR) and mass spectrometry (MS) are
the most important analytical platforms in the field of metabolomics research. Both technologies are
capable of performing high-throughput analysis of large amounts of metabolites in organisms, but
each has different analytical advantages and disadvantages.

NMR was first applied to metabolite analysis of biological samples in 1983. The key
advantages of NMR are good stability and high reproducibility, minimum sample preparation and
relatively low sample size requirements, and non-destructive and non-biased to samples during
analysis. In addition, NMR can provide structural information including stereochemical details. At
present, NMR-based metabolomics has been widely used in drug development, disease diagnosis
and treatment, toxicology and so on. It can identify unknown metabolites, quantify many different
sets of metabolites, provide important metabolic changes, and dynamically monitor disease
progression and metabolic reactions at different stages of drug intervention. MS can be used to
characterize, identify and quantify a large number of compounds in biological samples. Compared with NMR, MS has better accuracy and sensitivity, and can measure a wider
range of metabolites. MS usually combined with separation techniques, especially liquid
chromatography (LC) and gas chromatography (GC). GC-MS is commonly used for the quality
control and qualitative and quantitative determination of active components in natural products,
especially for the detection of thermostable and volatile metabolites (or metabolites containing
volatile derivatives). LC-MS is the mainstream technology of CM metabolomics research. It can
analyze the polar, ionized, nonvolatile, thermolabile metabolites, and have high sensitivity,
separation efficiency, specificity, reproducibility, selectivity, flexibility and universality, is very
suitable for metabolomics analysis. LC-MS provides a broad statistical assessment of metabolites
extracted from samples and can be used to reveal unknown metabolic disorders. Currently, LC-MS
metabolomics is mainly used in clinical disease diagnosis and treatment, drug toxicity evaluation,
quality evaluation and mechanism of CM.
Application of metabolomics in toxicity evaluation of CM

Metabolomics technology has great advantages in the study of toxicity evaluation of CM. When toxic substances destroy the structure and function of normal cells, change the homeostasis of endogenous metabolites in the metabolic pathway, thereby changing the humoral components of cells through direct or indirect effects, these changes and damages to the body will be revealed through the changes of metabolites. Metabolomics can reflect the deviation of samples after toxin damage. Using metabolomics technology to evaluate the toxicity of TCM, the experimental samples are easy to obtain and processing methods are simple, mostly biological samples such as urine, feces, blood and other. And samples can be continuously collected on the same organism for many times. So it is easy to observe the occurrence, development and recovery process of toxicity. Toxic biomarkers can be found according to the changes of metabolic profiles, better understand the action sites and effect process of toxic substances. And then explore the mechanism of drug toxicology by the correlation of physiological and metabolic changes. While conventional toxicity assessment only determine the toxicity and toxic effects of certain organs by the biochemical analysis and histopathological examination of blood (or urine) samples, it is difficult to obtain information about the toxicity mechanism. Therefore, metabolomics analysis is an effective and non-invasive method for drug toxicology evaluation.

Chuan Wu and Fu Zicome from Aconitum carmichaeli Debx., though the therapeutic effects of the two drugs are excellent, the toxicity limits the application. Scholars applied metabolomics techniques to evaluate the toxicity of CW and FZ, elucidated the mechanism of CW and FZ\(^{[xvii][xviii]}\). Niuhuangjiedu tablet is an effective Chinese patent medicine for acute tonsillitis and pharyngitis, but realgar (As\(_2\)S\(_2\)) in prescription is a potential toxic composition. Xu et al.\(^{[xix]}\) studied the toxicity of realgar based on \(^1\)H NMR metabolomics method combined with histopathology and clinical chemical analysis, proved that the toxicity of realgar was balanced by other CM in the prescription by compatibility, and determined the effective material basis for alleviating realgar toxicity.

Perspective

The safety of CM is a hot issue in clinical application and one of the main obstacles for TCM to go international. Due to the diversity and complexity of CM, it is difficult to evaluate the toxicity of CM by the toxicity of a single organ or tissue. Applying metabolomics research strategy with a characteristic of holism to evaluate the toxicity of CM and its formulas, using metabolomics advanced analytical techniques and methods to detect the overall metabolic response of the body to toxicity, can better explain toxicity biomarkers and the effect mechanism, and determine the toxic material base of CM. It is helpful to systematically and comprehensively discover the quality control indexes related to the safety of CM, and to provide theoretical basis for the toxic application of CM in clinical practice.

References

Quality Marker Research of Kaixinsan with Chinmedomics Strategy

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Abstract

Traditional Chinese medicines (TCMs) has a long history in clinical application. As the main material basis of TCM for clinical diagnose and treatment, the quality and efficacy of TCM are directly related to the clinical manifestations of TCM and the safety of patients, even to the survival and development of TCM industry. The quality of TCM is related to the survival or perish of Chinese materia medica. In this paper, 3 related literatures were consulted, taking Kaixinsan(KXS) prescription as an paradigm hoping to expound the efficient way to discover q-marker by applying chinmedomics strategy.

Key words: quality marker, chinmedomics, kaixinsan, quality control

The q-marker are inherent or formed in the process of processing and preparation of TCM and other types products (slices, decoctions, extracts and preparations). They are chemical substances that can reflect the characteristics of the complex system of TCM. The basic conditions for determining q-markers can be listed as follows: 1) It’s the inherent secondary metabolites in Chinese medicinal materials and products, or the chemical substances formed in the process of processing and preparation; 2) It’s the specific chemical substances from a certain medicinal material (slices) rather than from other medicinal materials; 3) It’s must possess clear chemical structure and biological activity; 4) It’s the substances that can be qualitatively identified and quantitatively determined; 5) It’s according to the principle of "jun" drug preference in prescriptions consisting of compatibility should take into account the representative substances of “King (Jun)”, “minister (Chen)”, “assistant (zuo)” and “guide (Shi)”,drugs.

Chinmedomics strategy is an innovation in the modern research methodology of TCM, which is also an effective way to find quality markers. It’s taking Chinese medicinal syndromes as the research objects, which are two essential concepts of Chinese medicine. And the serum pharmacocchemistry of the TCM approach with metabolomics were integrated to establish an innovative chinmedomics strategy, which is able to explore syndrome biomarkers and evaluate TCM efficacy in order to discover effective substances from TCMs. This strategy is not only an effective way to evaluate the effectiveness of traditional Chinese medicine based on the compatibility of prescriptions and the corresponding conditions of prescription-syndrome, but also an indispensable way to find the quality markers of traditional Chinese medicine.

Objective

To search the feasibility of quality markers of traditional Chinese medicine from the perspective of Chinmedomics, which will provide a reliable method for discovery the q-marker.

Materials and methods

Kaixinsan (KXS) is a classic prescription for the treatment of Alzheimer’s disease (AD), that has been applied widely in recent years. However, it’s q-markers still uncertain. In this research two month old APP/PS1 transgenic model mice of AD were oral administration of KXS for 10 month to intervene. Through the novel object recognition, the classic Morris water maze, immunohistochemistry detection of Aβ1-42, Hematoxylin-eosin staining, blood metabolic profiling evaluated the therapeutic effect of KXS on AD. PCMS software was applied to analysis correlations between biomarkers and serum constituents and became a powerful implement foreexcavating effective material basis. Applying chinmedomics for assessing the efficacy and discovering potential quality-markers.

In order to reveal KXS’s efficacy and safety, a quality standard was established, which is based on the discovery principle of the q-markers. Chinmedomics has been used to explore the efficacy and potential q-markers of KXS in transgenic AD mice.
Results and discussion

The result indicated that KXS can cut down the deposition of Ab1-42 in brain tissue and significantly improve cognitive function. The biomarkers and components in vivo were analyzed using the chinmedomics strategy, which showed that KXS rebalancing lipid and amino acid metabolism abnormalities, during this process 20 biomarkers significantly regulated. Based on the efficacy of KXS against AD, q-markers that included ginsenoside F1, ginsenoside Rf, dehydroaspachymic acid, 20-O-glucopyranosyl ginsenoside Rf, and E-3,4,5-trimethoxyxcinnamic acid were determined.

Chinmedomics strategy has been a powerful tool for exploring effective material basis and developing new drugs of TCM and exploring new medicinal resources. As far as I am concerned that Chinmedomics based on metabolic markers is an effective, objective and feasible way at present. Furthermore, the theory development of Chinmedomics is situating a mature stage and its application is relatively easy.

References:

Progress in Diabetic Retinopathy Treatment of Traditional Chinese Medicine

Ling Kong, Aihua Zhang, Guangli Yan, Hui Sun, Ying Han, Xiaohang Zhou, Xijun Wang*
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Abstract

Diabetic retinopathy (DR), a chronic microvascular retinal disorder of diabetic mellitus, is one of the leading causes of blindness among individuals of working age. The pathogenesis of DR is complex and the clinical application of various treatment methods can not completely prevent the development of DR. Many reports on the treatment of DR with Traditional Chinese Medicine (TCM) have been published, and have attracted more and more attention from doctors all over the world.

Key words: Diabetic Retinopathy, Traditional Chinese Medicine

Introduction

Diabetic retinopathy (DR) is one of the major complications of diabetes mellitus (DM) and is the main cause of visual impairment and blindness in adults, seriously affecting the health and quality of life of patients. It is reported that the incidence of retinopathy in diabetic patients with 10-year course is 74%, of which 64% have non-proliferative diabetic retinopathy (PDR). The number of diabetic patients continues to increase, and it is estimated that by 2040, the number of diabetic patients aged 20-79 is expected to increase to 642 million [1]. Influenced by poor vision, the quality of Patient's life has seriously declined, and at the same time, it has brought tremendous burden to patients and society. Therefore, many treatments for DR have been proposed, including laser photocoagulation, vitrectomy and intravitreal injection of anti-vascular endothelial growth factor drugs. These therapeutic interventions are effective in preventing the deterioration of retinal detachment, neurodegeneration and angiogenesis, but they are not sufficiently effective in preventing visual impairment. This is mainly due to the limitations and unavoidable side effects of specific therapeutic targets, such as peripheral vision loss, macular edema deterioration, nocturnal
vision impairment and insufficient contrast sensitivity. Therefore, there is an urgent need for DR drugs that do not affect visual function. More and more studies have shown that TCM has the characteristics of multi-component and multi-target action, which can effectively reduce the complications caused by DM, and has less side effects.

**Treatment of DR with monomer of TCM**

With the development of TCM research, more and more anti-DR monomers were extracted from TCM. Andrographolide significantly inhibited the increase of serum and vitreous vascular endothelial growth factor and inhibited the expression of vascular endothelial growth factor and its receptor in the retina of PDR rats [2]. Tauroursodeoxycholic acid (TUDCA) could improve high glucose-induced dysfunction of human retinal microvascular endothelial cells and STZ-induced DR [3].

**Treatment of DR with TCM extract**

The aqueous extract of Loniceræ Japonicæ Flos (FL) had the inhibitory effects on new vessel formation in STZ-induced diabetic mice. FL effectively reduced the increase of retinal neovascularization and reduced the increased serum VEGF content [4]. Dendrobiurn chrysotoxum Lindl (DC) decreased the retinal vessel density in diabetic rats. DC inhibited glucose-induced VEGF expression and VEGFR2 activation through VEGFR2-cRaf-MEK1/2-ERK1/2 and PI3K-AKT signaling pathways [5].

**Treatment of DR with TCM prescription**

Different from the single TCM, TCM prescription organically combines various TCM according to compatibility to improve curative effect or reduce side effects. Dansgui Buxue Decoction (当归补血汤) is an aqueous extract of Astragalus membranaceus and Angelica sinensis. Dansgui Buxue Decoction with Panax Notoginseng successfully eliminated the leukostasis in retinal vasculature in STZ induced diabetic rats and decreased the expression of key inflammatory factors in the retina [6].

In oxygen-induced retinopathy (OIR) mice, Shiquan Dabu Decoction (十全大补汤) could decrease retinal neovascularization by inhibiting the expression of platelet-derived growth factor, an angiogenesis factor in the development of PDR [7]. Guipi Decoction (归脾汤) depressed the VEGF expression and neovascularization in OIR mice [8].

**Treatment of DR with external treatment of TCM**

External treatment of TCM is an effective method for DR. Its therapeutic effect is worthy of clinical promotion, including fumigation, acupuncture, iontophoresis and so on. Acupuncture combined with laser treatment for DR, the control group only received laser treatment, while the treatment group received laser treatment and acupuncture treatment at the same time, then found that the total effective rate of treatment group and control group were 87.50% and 69.23%, respectively, the difference was statistically significant [9]. Salvia miltiorrhiza injection combined with iodine iontophoresis is effective in treating complications after laser photocoagulation [10]. So that more researchers have a more comprehensive understanding of the application of TCM in the treatment of DR.

**Discussion**

This paper reviews the current situation of DR treatment with TCM from four aspects: TCM prescription therapy, TCM extract therapy, monomer of TCM therapy and external treatment of TCM. According to the literature reviewed in this paper, Chinese medicine has definite effects on the prevention and treatment of DR. Although the prevention and treatment effect of TCM on DR patients and DR animal models has been verified, there are some problems, such as insufficient number of subjects and animal models can not fully reflect the characteristics of DR patients. Therefore, further clinical trials, especially randomized controlled trials, are necessary to confirm the effectiveness and safety of TCM in the prevention and treatment of DR. At the same time, in addition to the above TCM therapies, exploring other Chinese medicinal herb and TCM prescriptions may have new breakthroughs in the prevention and treatment of DR.

**References:**
Toxicity Study of Chinese Herbal Medicines using Metabonomics

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Abstract
The therapeutic effects of Chinese herbal medicines (CHMs) on many diseases are obvious to all, but some commonly used CHMs have different degrees of damage to living organisms, such as heart toxicity of Aconitum carmichaeli, liver toxicity and kidney toxicity of Tripterygium wilfordii, etc. Metabonomics, as an integral part of system biology, has absolute advantages in finding biomarkers of small molecules and related metabolic pathways. This article mainly introduces the progress of metabonomics technology in the research on toxicity of CHMs. The results demonstrate that the main causes of toxicity of CHMs are abnormal energy metabolism, lipid metabolism and amino acid metabolism.

Key words
Metabolomics, Chinese herbal medicine, Toxicity

Introduction
For thousands of years, Chinese herbal medicines have played a major role in the treatment and prevention of diseases as a gift of nature to human beings. It is worth noting that some CHMs have been reported to have harmful effects on animals and humans. With the development of systems
Study on Drug Metabolism by Human Gut Microbiota

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Abstract

Gut microbiota plays critical roles in drug metabolism. The variation of gut microbiota contributes to the interindvidual differences toward drug therapy including drug-induced toxicity and efficacy. In the latest research, levodopa, the Parkinson's disease drug, is metabolized by the human gut microbiota, resulting in reduced bioavailability and side effects, explaining the "individual differences" considered in the past. It is further demonstrates the critical functions in maintaining human health and involvement of various diseases. Therefore, studying and clarifying the effects of gut microbiota on drug metabolism and toxicity is not only conducive to the development of individualized drugs, but also conducive to rational drug design.

Keyword: Gut microbiota, Levodopa, Drug metabolism, Rational drug design
With the focus on the gut microbiota, a healthy gut microbiota is found to have considerable diversity and function. The physiological defects of the gut microbiota are thought to be related to the pathogenesis of not only diseases that primarily affect the gastrointestinal disease but also other diseases, including hepatic, rheumatologic, metabolic, neurologic and other illnesses. A research team pointed out that levodopa, the primary drug used to treat Parkinson’s disease, will be digested by the gut microbiota to severely reduce the curative effect.

As dopamine-producing neurons die, patients with Parkinson's disease may experience symptoms such as limb tremors due to a lack of dopamine. After oral administration of levodopa, it is absorbed by the small intestine and can enter the brain across the blood-brain barrier and metabolized to dopamine. Thus, insufficient dopamine is replenished to relieve symptoms. But only a few levodopa enters the brain through the blood-brain barrier. One of the main reasons is that it will become peripheral dopamine in the intestines in advance but the latter cannot penetrate the blood-brain barrier. Although levodopa is co-administered with drugs that block peripheral metabolism, the effects of treatment and side effects are still significant in individuals with Parkinson's disease. However the interindividual differences is reversed with antibiotic treatment, suggesting that gut microbes have a causal role in neurodegeneration.

Results and discussion
As a result, there is a large amount of the enzyme in the body of E. faecalis can efficiently synthesize levodopa into peripheraldopamine. Interestingly, these newly synthesized peripheraldopamine are also metabolized by another gut bacteria. The metabolic waste of dopamine also causes gastrointestinal side effects, can lead to orthostatic hypotension through activation of vascular dopamine receptors, and may induce cardiac arrhythmias.

This consequence that gut microbial interactions with levodopa influence treatment outcomes in Parkinson's patients indicates that the gut microbiota plays a key role in drug metabolism, suggesting that gut microbiota are important factors influencing individualized medication and rational drug design.

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Research Progress of Central Nervous System Diseases using Metabolomics

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Abstract
Metabolomics is a new science to study the metabolic concentration and flux of objects. It has great potential and application prospect in the discovery and early differential diagnosis of biomarkers of central nervous system diseases. This article reviews the research and application of metabolomics in cerebrovascular diseases of central nervous system, autoimmune diseases, neurodegenerative diseases and others.

Key word: Metabolomics; Central nervous system (CNS); Biomarkers; Diagnosis

1. Introduction
Metabolites are the final reflection of body cells on physical pathophysiological processes caused by external stimuli, diseases, etc. Metabonomic analysis method is used to analyze differential metabolites so as to discover biomarkers of diseases and achieve early diagnosis and
treatment.[xxi] The etiology of central nervous system diseases is complex, and brain CT scanning and magnetic resonance imaging techniques have been able to accurately and rapidly diagnose brain diseases. However, due to irreversibility of brain cell damage, there is no effective treatment method, so it is particularly important to find early markers of diseases and improve the specificity and sensitivity of diagnosis to achieve targeted therapy.[xxi]

2. Application of metabolomics in central nervous system diseases

2.1. Cerebrovascular Diseases of Central Nervous System
Cerebrovascular diseases are a group of diseases that cause brain tissue damage due to intracranial blood circulation disorders. They are usually divided into ischemic type (cerebral infarction) and hemorrhagic type (cerebral hemorrhage). Wang et al. used HPLC-HRMS non-targeted metabolic analysis method to investigate the effect of Kudiezi injection on rat models of middle cerebral artery occlusion and reperfusion. A total of 32 potential biomarkers were found, mainly related to metabolic pathways such as amino acid metabolism, energy metabolism, lipid metabolism, etc.[xxii]

2.2. Autoimmune diseases of central nervous system
Autoimmune diseases can be divided into central (multiple sclerosis and neuromyelitis optica) and peripheral nerve autoimmune diseases, which have both the complexity of autoimmune diseases and the severity of death and disability of nervous system diseases. Differential metabolites in plasma samples of patients with multiple sclerosis (MS) mainly include glucose, 5-hydroxytryptophan and tryptophan with low expression, and 3- hydroxybutyric acid, acetoacetic acid, acetone, alanine and choline with high expression, which are mainly related to tryptophan metabolism and energy metabolism pathway.[xxiii] In addition, studies have shown that MS metabolic disorders are related to tryptophan metabolic pathways. Among them, the kynurenine pathway is highly induced and expressed in inflammatory environment, which may lead to the occurrence of MS. Therefore, some researchers hypothesize and verify that there are significant changes in kynurenine and hydroxyquinoline in the kynurenine pathway, which may be potential biomarkers of MS.

2.3. Degenerative diseases of central nervous system
Degenerative diseases of the central nervous system are characterized by long latency and irreversibility. Due to its complex etiology and difficulty in detection, metabolomics has attractive application prospects in this field. Existing studies show that endogenous metabolites of APP/PS1 transgenic Alzheimer's disease model mice change before learning and cognitive ability are impaired. 24 different metabolites of APP/PS1 transgenic mice early urine were identified, which were mainly related to metabolic pathways such as pentose and gluconic acid conversion, glyoxylic acid and dicarboxylic acid metabolism, starch and sucrose metabolism, citric acid cycle, tryptophan metabolism, arginine and proline metabolism, etc. In addition, metabolic pathways such as Parkinson's disease, Huntington's disease and amyotrophic lateral sclerosis have been extensively studied. Interestingly, most of these degenerative diseases are related to energy metabolism, tryptophan metabolism, etc. This indicates that they play an important role in the process of neurodegenerative diseases of cranial nerves.[xxiv]

2.4. Other diseases of central nervous system
Metabolomics has also conducted in-depth research on the impact of other central nervous system diseases. Early analysis of cerebrospinal fluid metabolic levels of several meningitis based on UHPLC-QTOF-MS platform also showed that its pathogenesis may be related to amino acid metabolism, lipid metabolism and nucleoside metabolism. Except for adipose tissue, the central nervous system has the highest lipid content. Lipid plays an important role in cell signal transduction and tissue physiology. Many neurological diseases involve lipid metabolism disorders. Therefore, lipids can be used for marker monitoring.

3. Summary and Prospect
In recent years, the development and application of metabolomics technology have greatly promoted the research of central nervous system diseases. Cerebrospinal fluid is in direct contact with the central nervous system, which objectively reflects the pathological changes in the central nervous system.
nervous system. However, tryptophan metabolism and lipid metabolism will probably be the focus of further research.

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Advances in Adjuvant Treatment of Bone Marrow Suppression with Traditional Chinese Medicine

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Abstract
Bone marrow suppression is a common side effect of chemotherapy in cancer patients. Traditional Chinese medicine has the effect of reducing bone marrow inhibition. Although great progress has been made at present, the mechanism of some therapies is still not thoroughly studied, and further research is needed. In this paper, the progress of experimental research on bone marrow suppression after chemotherapy assisted by traditional Chinese medicine was reviewed, providing scientific basis for the research and development of these new drugs.

Key words : Bone marrow suppression, Traditional Chinese medicine

Introduction
Bone marrow depression is a serious disease, which is related to the dysfunction of blood cells, destroying the body function of patients, thus affecting the quality of life of patients [1-2]. Side effects of therapeutic drugs on cancer are the most common cause of bone marrow suppression.

As an adjuvant therapy for bone marrow depression caused by chemotherapy, Chinese medicine has received extensive attention. The purpose of this review is to summarize the results of current experimental studies on Chinese medicine adjuvant therapy for myelosuppression, and to provide useful information for developing more effective anti-myelosuppression drugs and improving the quality of life of patients in the future.

Modern pathological features of bone marrow suppression induced by chemotherapy
Hematopoietic stem cells (HSCs) and hematopoietic progenitor cells (HPCs) are two components of hematopoietic cells. HSCs are highly self-renewing and self-replicating, and further differentiate into HPCs. HPCs proliferation and differentiation meet normal hematopoietic and various hematopoietic crises, such as blood loss. Acute myelosuppression occurs when HPCs are depleted by chemoradiotherapy. At this time, HSCs self-renew, proliferate and differentiate into HPCs, thus maintaining hematopoietic homeostasis. Potential bone marrow injury occurs when
toxic chemotherapeutic drugs or high dose radiotherapy selectively act on HSCs impair the self-renewal ability of HSCs.

**Traditional Chinese medicine prescription by traditional Chinese physicians for bone marrow suppression treatment**

Traditional Chinese medicine prescription is a combination of different traditional Chinese medicines to produce a comprehensive effect of multi-component, multi-system and multi-target. Chinese herbal blood-tonifying compound has also played an important role in the prevention and treatment of bone marrow depression. At present, some classical prescriptions have been found to have potential therapeutic effects on bone marrow suppression. For example, the classical prescription Danggui Sini Decoction, which acted on cyclophosphamide-induced bone marrow suppression mice model, increased the expression of spleen thrombopoietin (TPO) gene, but did not affect the expression of c-Mpl. These results suggest that Danggui Sini Decoction can improve chemotherapy-induced bone marrow suppression by up-regulating TPO expression. Sanyang Xuedai (SYKT) is composed of eight kinds of Chinese medicines such as Angelica sinensis and licorice. It can effectively inhibit the decrease of peripheral blood and CD34+/CD44+ cell count in mice with bone marrow suppression induced by doxorubicin (DOX). The results suggest that SYKT may counteract DOX-induced bone marrow suppression by inhibiting ROS-mediated apoptosis. In addition, some studies have shown that Shengyu Decoction can improve the hematopoietic function of bone marrow-suppressed mice, one of its mechanisms may be through promoting bone marrow hematopoietic cells into the cell proliferation cycle and inhibiting their apoptosis.

**Conclusion**

At present, the latest molecular and cell biology techniques have been applied in the research of Chinese herbal medicine in preventing and treating bone marrow suppression after chemotherapy. It has made important breakthroughs from the traditional morphological study to the study of hematopoietic stem/progenitor cells, intracellular signal transduction and the regulation of related gene expression. However, it is necessary to strengthen the study of its mechanism of action, so as to provide a scientific basis for the prevention and treatment of bone marrow suppression after chemotherapy with traditional Chinese medicine.

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Discovery of Bioactive Compounds from Herbal Preparation Using Mass Spectrometry

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Abstract

Discovery and identification of bioactive compounds from natural products is a critical and complex task in drug development pipelines. Besides commonly used bio-guided screening approaches, including separation, extraction, purification and the identification of the structure, have been used for many years, however this process is time-consuming and strenuous. Mass spectrometry (MS) technology has been gaining increasing interest from researchers, owing to it has the high sensitivity, high efficiency, the low sample dosage, the fast analysis speed and the simultaneous separation and identification, which makes MS especially suitable for discovering bioactive compounds from the complex mixtures the natural products. In this paper, to summarize the discovering and screening active compounds from herbal preparation in vivo using MS based on distinct analytical techniques.

Key words: Mass spectrometry; herbal preparation; active compound

A variety of plants or portions from plants were used for the prevention and treatment of disease. Compared with the chemical drugs, herbal preparation (HP) that contains of multiple plant extracts has the characteristic of the multi-component, multi-targets and multi-pathway [1]. Abundant dates have shown the effects of HP, and 80% people use it to cure or prevent diseases. And HP is used not only for a particular character but the whole body, which can strengthen ourselves. But the compounds from HP are complex enough, not all components are effective. Although HP has proved its value, the process of screening and identification of active compounds from HP is time-consuming and strenuous. So it is necessary to establish a rapid method to screen the active compounds from HP.

Recently, due to the characteristic of high efficient, sensitivity and rapid analysis, mass spectrometry (MS) have been widely used in biology, biomedicine and biochemistry [2], which could confirm the structure and molecular weight. According to this function, MS has successfully developed an important analysis method in determining the compounds of HP and provide more information of the compound structures. Abundant compounds from HP have been found including flavone, alkaloid, anthraquinone, saponin and etc. Based on the method in vitro, MS can provide the appraisal of the analysis and identification of HP and screen the active compounds in vivo. It is important to explain the efficacy material base and mechanism of action in HP. Many researches have been done to screen the active compounds in vivo from HP based on MS and make many breakthroughs [3].

With the development of MS technology, MS have been used widely in phytotherapy. It provides a mass of the information of structure of unknown compounds. Recently, abundant experiments have shown the application of MS to screen the active compounds. Comparing with the traditional method, MS method is more convenient. Animal experiment is necessary to screen the active compounds from HP in vivo. As we all know, the compounds from preparation have the essential effects on the organ in corresponding diseases. The blood sample or urine sample is analyzed by MS in a gradient parameters and method. All of the mass data can be analyzed using corresponding software, such as Masslynx. Compared with the MS data of HP in vitro, the prototype components can be obtained through the retention time, MS data and MS/MS fragment. The metabolites can be identified by MetaboLynx software according to process the data of the plasma samples. And the active compounds from HP are obtained. Because of the high sensitivity of MS, the active compounds that are in lower content can be screened.
The components from HP are complex and the mechanism is intricacy. Establishing a feasible method to screen the active compounds is a key to realize the modernization of herbs[4]. And the speed of screening directly impacts the progress of the herbs innovations. MS, a technology with great potential development, has been used in biomedicine and gets many successful achievements. In this paper, we introduce that MS coupled with some instrument and methods is used to screen the active compounds from HP and structural identification of them. With the characteristic of high sensitivity, high selectivity and fast analysis speed, MS has shown a widely application prospect. Recently, MS has achieved many breakthroughs inefficacy evaluation and mechanism research. With the scientific and technological progress, MS would realize more value in HP.

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Proteomics research on biomarkers for early diagnosis of hepatocellular carcinoma

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Abstract
Hepatocellular carcinoma (HCC) is one of the most common malignant tumors in the world, which seriously threatens human health. The diagnosis of patients is mostly in the middle and late stages but the best treatment opportunity is lost. With the increasing maturity of proteomics technology, this scientific research method to explore the structure and function of proteins has gone deep into various disease fields to fully understand the occurrence and development mechanism of diseases. This article reviews the progress in proteomics research on early diagnostic markers of HCC.

Key words: Proteomics; Hepatocellular carcinoma; Biomarkers

Introduction
Liver cancer is the second most common cause of cancer death in the world [1-3], with 700,000 deaths worldwide each year in recent years. Proteome refers to the whole genome expressed by a cell or a tissue, the concept was first proposed by Winkins and Williams in 1995. Proteomics analyzes the composition, expression level, modification state and interaction of proteins in organisms from the overall perspective, so as to understand the relationship between proteins and diseases. By monitoring liver cancer markers, tumors can be found earlier than other methods, and the accuracy of prediction and diagnosis can be improved, thus improving curative effect and prognosis. In recent years, some achievements have also been made in the research of anti-liver cancer efficacy and mechanism of traditional Chinese medicine formula (TCMF). In this article, the research about proteomics on early diagnostic markers of HCC will be summarized.
Biomarkers for early diagnosis of HCC

GPC3 is a member of Glican family. Its abnormal expression is associated with many kinds of swelling [4]. Glypcan-3 (GPC3), a carcinoembryonic proteoglycan anchored to cell membrane, is usually detected in fetal liver but not in healthy adult liver [5]. However, GPC3 is overexpressed in both gene and protein levels in HCC patients, which indicates a poor prognosis [6]. VEGF is a major driver of physiological and pathological angiogenesis. It promotes tumor angiogenesis by promoting endothelial cell growth and migration. The serum level of vascular endothelial growth factor in HCC patients is significantly higher than that in healthy people [7]. Immunohistochemistry (IHC) and Western blotting assay were used to confirm that VEGF were widely expressed in HBV-related HCC [8]. OPN, a protein of the extracellular matrix, which is dramatically elevated in HCC tissues, has generated in HCC a significant interest as a prognostic and diagnostic marker of HCC [9-10].

Application of proteomics

Using proteomic and phospho-proteomic profiling, Jiang, et al [11] characterize 110 paired tumour and non-tumour tissues of clinical early-stage hepatocellular carcinoma related to hepatitis B virus infection. Their quantitative proteomic data highlight heterogeneity in early-stage HCC, this data was used to stratify the cohort into the subtypes S-I, S-II and S-III. Hepatitis c virus infection increased glucose metabolism and STAT3 signaling pathway, thus changing the expression level of peroxidase gene [12].

Discussion

Proteomics has made contributions in many fields of liver cancer research. However, due to the large amount of protein in human body, various structures and functions, and incomplete proteomics technology, there are still limitations and further development and improvement are needed. Now proteomics is also closely linked with the field of TCMF, which combines the thinking of syndrome differentiation and treatment of TCMF with proteomics to explain the pathogenesis. TCMF pays attention to the overall concept, and has unique therapeutic effect on liver cancer with relatively small side effects. It can not only inhibit tumor growth, but also improve the clinical symptoms of patients and improve their quality of life. Shaoyao Ruangan Mixture could inhibit cell metastasis and invasion by reducing VEGF level. With the continuous innovation of science and technology, it will bring more good news to mankind in the field of HCC.

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Mass Spectrometry-based Metabolomics for Efficacy Evaluation

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Abstract

Metabolomics is a systematic study to investigate the metabolic network of biological systems, being one of the most well-known tools for functional genomics and systems biology research, which analyze the dynamic changes in metabolites by stimulating or disturbing the organisms. Chromatography-mass spectrometry combines the high resolution and high throughput of mass spectrometry with high sensitivity and high specificity of chromatography which aims at identifying complicated compounds. Based on the combination, it is prospected for the application on pharmacological effects evaluation.

Key words: Metabolomics, MS, pharmacological effects

Metabolomics is a research method that follows the research ideas of genomics and proteomics, quantitatively analyzes all metabolites in living organisms and searches for the relative relationship between metabolites and pathological changes.[1] Metabolomics is a widely used tools for the simultaneous qualitative and quantitative analysis of all low molecular weight metabolites in a given organism or cell over a specific physiological period.[2] It is a branch of systems biology based on analysis of group indicators which takes high-throughput detection and data processing as methods and information modeling and system integration as intentions. Based on these characteristics of mass spectrometry, we can use it to evaluate pharmacological effects. This article will explain the pharmacological evaluation of mass spectrometry by individual, tissue, organ, cell and so on.

Individual

The introduction of individualized diagnosis and treatment is based on the fact that human beings have individual differences. It is precisely because the formation of individual differences is the result of a combination of genetics and environment, and metabolomics is closer to the phenotype than other omics, reflecting the biological events that have occurred. Metabolomics is also the combined result of genotypes and the environment, and is a direct manifestation of the
physiological and biochemical functions of biological systems. Therefore, metabolomics research can help to find the objective basis and production mechanism of individual differences[3].

At present, some scholars use metabolomics methods to study individual differences and find that individual differences are closely related to age, gender, diet, living environment, mental psychology, etc., providing an objective basis for the existence of individual differences.

For example, some researchers collected plasma and urine from 12 healthy men given a standard diet, and compared with nuclear magnetic resonance (NMR) measurements of plasma and urine 14 days apart, using principal component analysis. (PCA) Data analysis revealed that there was little difference in plasma, but there were large individual differences in urine, and it was found that there was a diurnal variation in the metabolic profiles of all subjects. They also compared the differences in the metabolic profiles of populations between different countries. The results showed that the endogenous urinary metabolic profile was seriously affected by culture and diet. In addition, individualized treatment also emphasizes individualized medical design and adopts optimized, targeted treatment interventions. Metabolomics is one of the most active sub-disciplines in the field of systems biology research.[5] With its continuous application in disease diagnosis, drug mechanism, new drug toxicity evaluation and clinical nutrition, if it can be combined with individual differences, it must bring new hope for the diagnosis of objective and individualized medication.

Tissue
The liver is the significant organ of metabolism of the body and is also the staple objective of drug damage. Drug-induced liver injury refers to liver damage caused by the drug itself or its metabolites during use. With the wide application of new drugs and people's constant attention to traditional Chinese medicine, the disease has received more and more attention. Traditional liver injury studies mainly use in vivo and in vitro evaluation systems, and there are significant deficiencies in sensitivity and specificity. As an important part of system biology, metabolomics technology has great potential in drug toxicity or safety evaluation. It mainly focuses on the downstream small molecule metabolites (MW<1000) of life activities.

Due to its research characteristics and advantages, metabolomics technology has been widely used in drug development, toxicity evaluation, clinical disease diagnosis and other fields after years of exploration and application. Metabolomics has better reliability and predictability in early warning and prevention of drug-induced liver injury, and plays an important role in early detection of diseases, mechanism research and drug safety evaluation. However, there are still many areas for metabolomics to be perfected. For example, it takes a certain time to establish a relatively complete metabolite pool, and external factors such as individual differences and environment can easily affect the changes and differences of metabolites. In addition, due to the complex and diverse types of drug-induced liver damage, the differential metabolites found are also different, making it difficult to diagnose with only one or several metabolites as potential biomarkers. Therefore, how to establish a differential metabolome to better adapt to clinical treatment and drug development is still a research hotspot[6].

Organ
Plant samples used for metabolomics analysis are usually placed in liquid nitrogen or cryopreserved at -80 °C immediately after collection[7]. To extend shelf life and reduce metabolites during subsequent sample preparation operations. Some scholars used the GC/MS method to evaluate the vacuum freeze-drying, 45 °C drying and silica gel drying on the leaves, stems and leaves of the reeds. The influence of the results of metabolomics analysis of root tissue samples provides a scientific basis and reference for the selection of sample processing methods for reed metabolomics analysis. Principal Component Analysis (PCA) and Multi-Response Replacement Process Analysis (MRPP) showed that drying at 45 °C and silica gel drying had a greater effect on the metabolite composition of different tissue samples of reeds, while vacuum freeze-drying only significantly affected the metabolite composition of leaf samples influences.

Cell
A large number of studies have shown that diosgenin (Dio) has a wide anti-tumor effect on
different tumors. Both have good inhibitory effects and are potential anti-tumor candidate
compounds[8]. Cellular metabolomics describes the end products of intracellular regulation, which
are the final response of biological systems to genetic factors or the external environment. The
results of metabolic profiles complement the overall metabolic studies, enriching the drug pathway
by combining genomic and proteomic data. The study. Using cell metabolomics to study the changes
in related metabolites caused by compounds acting on tumor cells, and discovering potential
differential metabolites and abnormal biochemical pathways, it is helpful to explore drug targets
from a metabolic perspective and further elucidate the mechanism of action of drugs.

Results and discussion
Metabolomics, as part of systems biology, has received widespread attention in the life
sciences, representing advanced omics and providing "functional" information in omics research.
The combination of constantly updated MS technology and metabolomics has greatly enhanced the
application of metabolomics in practice. At present, MS can not only analyze the chemical content
of extracts by LC-MS or CE-MS methods, but also use imaging methods to analyze intact tissues or
cells to provide spatial information for the location of a given metabolite. To date, many published
studies have demonstrated the enormous potential of MS in metabolomics research. However, there
is a lack of research on pharmacological evaluation. As another fast-growing omics field, more
exciting new technologies are expected to be applied to Scientific research in the near future.

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Research Progress of Trivalent Arsenic in Leukemia Treatment
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Abstract:
To summarize the analysis of the development and innovation of arsenic in the treatment of acute promyelocytic leukemia by searching experimental research articles that have completed or staged progress. Arsenic has obvious advantages for the treatment of acute promyelocytic leukemia. The United States has approved arsenic trioxide as a new drug for the treatment of APL. Chinese scholars have used the advantages of traditional Chinese medicine to rediscover the special effects of old medicines abandoned by the West on new diseases. Providing new opportunities for traditional medical research and applications.

Key words: Trivalent arsenic, Acute promyelocytic leukemia, New use of ancient formulas

Arsenic is a nitrogen element. It exists mainly in the form of sulfides in nature, and it has two valence states of 3+ and 5+ in the compound. "Shen Nong's Herbal Classic" describes the medicinal functions of realgar (As$_4$S$_4$) and orpiment (As$_2$S$_3$). Medicinal arsenic has been used to treat syphilis, skin diseases, and carrion. In addition to medicine, arsenic is also used in the agricultural industry. In recent years, due to the continuous advancement of tumor treatment, especially leukemia chemotherapy, a new chapter in the treatment of leukemia with arsenic has been opened.

The history of arsenic treatment of leukemia
In 1865, Lissauer tried to treat chronic leukemia with potassium arsenite. In 1931, Forkner successfully treated chronic myeloid leukemia with potassium arsenite solvent. After 1966, Forkner and Scott used potassium arsenite to treat chronic myeloid leukemia and compared it with other agents[1]. Potassium arsenite treatment is the best. However, the treatment of tumors at that time was mainly surgery and radiotherapy, so chemotherapy treatment is very controversial. Until the mid-1930s, the effective antibacterial action of sulfon and penicillin opened the beginning of drug treatment of tumors. It can be said that the first drug used to treat leukemia is arsenic.

Status of arsenide in the treatment of leukemia
The 1976 French-American Blood Disease Classification Standard was released. For the first time, the APL was classified as an independent subtype (M3), giving the disease a diagnostic standard. In 1977, American scientists discovered the APL chromosomal translocation diagnostic method, which made the diagnostic accuracy of APL almost 100%[2]. Prior to this, APL was indistinguishable from other granulocyte leukemias or acute leukemias, and mixed therapy was usually used clinically. Around 1980, Chinese hematologists began publishing research articles on APL bone marrow classification diagnosis. The introduction and implementation of new international leukemia diagnostic criteria has enabled Chinese scholars to begin exploring new treatments for APL[3]. Professor Wang Zhenyi of the Chinese blood community first reported in 1988 that retinoic acid was effective in treating 24 cases of APL. In the early 1970s, Chinese and Western medicine practitioners began to explore the treatment of leukemia with compound Chinese medicine containing arsenic. It was found to be the best for early-granular treatment. In the APL case observation report published in the early 1990s, it was clearly stated that the diagnostic criteria for leukemia used was 1980. Suzhou leukemia classification and classification criteria and 1986 Tianjin leukemia classification classification criteria. Obviously, the update of international leukemia diagnostic criteria has played a key role in Chinese scholars' discovery of the special efficacy of arsenic in the treatment of APL.

Arsenic has been used in traditional Chinese medicine for thousands of years. Even in modern times, it has not been abandoned as the Western medical profession. Arsenic, vermiculite, red sail, and realgar are all legal Chinese medicines containing arsenic. They have a long history of medicinal and inheritance in China. Han Taiyun pharmacist first discovered the prescription of arsenic in the folk Chinese medicine to effectively treat cancer. Made of 713 injection and Cancer Ling No. 1 for leukemia treatment. After repeated clinical trials, it was found that this drug is effective in treating APL. Zhang Tingdong published the cancer injection No. 1 in 1979 and treated syndrome differentiation to treat acute myeloid leukemia[4]. Until 1995, the study found that arsenic trioxide was effective in treating APL by 90%, clearly demonstrating that arsenic is the most effective monomeric compound for the treatment of APL. Chinese scholars have used the advantages of traditional Chinese medicine to rediscover the special effects of old medicines.
abandoned by the West on new diseases. It can be said that without the millennium of Chinese medicine and China's relaxed environment for the clinical use and management of traditional medicine, it will be very difficult or unlikely to discover new areas of arsenic medicinal use.

**Physiological and Pharmacological Action of Arsenide**

Arsenic can inhibit the activity of mercaptosylase in living cells and disrupt the living cells of tumors. As a small amount of arsenic can inhibit oxidation, reduce basic metabolism, reduce oxygen consumption and enhance assimilation, thereby promoting protein synthesis, adipose tissue thickening, skin nutrition improvement, accelerating bone growth, activating bone marrow hematopoietic function, and promoting red blood cell and hemoglobin regeneration.[5] Therefore, the bone marrow of APL treated with As₂O₃ is not inhibited, and the erythrocyte and platelet of APL patients are not reduced, which is obviously superior to other conventional chemotherapy drugs.

Arsenide accelerates DNA synthesis, sodium arsenite prolongs lymphocyte division cycle, increases the number of cells in the first division cycle, decreases the number of cells in the third division cycle. Significant increase in DNA synthesis and delayed cell division may lead to the amplification of some genes, such as cancer suppressor genes, so as to achieve the anti-cancer effect of arsenic. Therefore, it is believed that arsenide may play an anti-oncogene role in the treatment of leukemia.

Although arsenic was found to be effective in treating leukemia in China in the early 1970s, academically speaking, the novelty of early discoveries is limited, merely repeating the early discoveries in the West. It is precious that Chinese researchers did not stop at the accidental clinical efficacy of arsenic compound in the treatment of leukemia, but followed up the accurate diagnosis of leukemia in modern medicine in time. At the same time, referring to the historical experience of Western arsenic agent in the treatment of leukemia, the most effective subtype of APL in the treatment of leukemia was found accurately. As a result, the therapeutic effect of APL has been greatly improved, and the clinical remission rate and effective rate of patients have reached 72% and 90% respectively.[6] Because of the special efficacy of arsenic on APL, the US FDA quickly approved arsenic trioxide as a new drug for APL in 2001. So far, there has been a major breakthrough in the use of arsenic in the treatment of leukemia.

**Discussion**

The success of arsenic in the treatment of APL illustrates the importance of basic medical research with examples. The progress of human understanding of disease not only provides opportunities for the innovation of Western medicine therapy, but also opens up new fields for the new use of ancient prescriptions. The important achievement of integrated traditional Chinese and Western medicine should be based on in-depth study and high recognition of the two kinds of medicine. Some important advances and breakthroughs in modern biomedical research may provide new opportunities for the research and application of traditional medicine. Innovation and inheritance should be paid equal attention to, and the innovation and development of traditional medicine should be strengthened.

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Chinmedomics Strategy for Discovering Effective Constituents from Traditional Chinese Medicine

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Abstract
Chinmedomics takes Chinese medicine prescription as the research object, takes TCM syndrome as the entry point, uses metabolomics technology to describe the biological essence of syndrome, establishes the biomarker group of syndrome, and objectively recognizes the syndrome and proves Biological evaluation system for establishing biomarker population. On this basis, the traditional Chinese medicine serum medicinal method is used to determine the direct acting substances in the body, and the drug-derived components of the prescription are associated with the biomarkers of the syndrome to achieve the purpose of discovering the pharmacodynamic substance basis of the Chinese medicine. Chinmedomics is used as a technical means to study traditional Chinese medicine, providing new opportunities for discovering effective Chinese medicines and further promoting the modernization of Chinese medicine.

Key words: Chinmedomics, metabolomics, syndrome, biomarkers

Prescription is the form of traditional Chinese medicine, and single-flavor medicine can only be used as raw material. Therefore, research on the pharmacodynamic basis of traditional Chinese medicine and the mechanism of Chinese medicine treatment syndrome or disease must be studied with prescription. Due to the particularity of the form of administration of the prescription and the specificity of its corresponding efficacy, the complexity of the basic research and determination methods of the pharmacodynamic substances of traditional Chinese medicine is determined. However, domestic and international research on the effective ingredients of traditional Chinese medicine and TCM syndrome differentiation and treatment, synergistic drug use and other drug concepts are very different, the ingredients selected by some methods can not be called the pharmacodynamic substance basis of traditional Chinese medicine. Only based on the evaluation method of clinical drug delivery mode and effectiveness of TCM and establishing a systematic methodological analysis method can we find the pharmacodynamic substance basis associated with clinical efficacy. Chinmedomics is able to directly detect and predict the active ingredients and potential targets of herbal medicines. UPLC-MS and pattern recognition analysis are used to analyze serum samples to determine biomarkers related to therapeutic effects.

Objective
In order to illustrate the application of Chinmedomics in traditional Chinese medicine research, and explain its discovery of active ingredients and their mechanism of action in the research.

Materials and methods
Chinmedomics analyzes the animal models of TCM syndromes, uses advanced instruments to process the metabolic samples of the animals, and conducts multivariate analysis based on the state and condition of the animals to identify the chemical components in the Chinese medicines and to explain the mechanism of action of the symptom model.

Results and discussion
To study the active ingredients and target of Chinese medicine AS1350 and its therapeutic effect on kidney yang deficiency syndrome, it was found that the compounds such as rutin and

scopolamine in AS1350 are important for the treatment of kidney yang deficiency syndrome, and found in the pathological study of kidney yang deficiency. Fatty acid metabolism, sphingolipid metabolism and the like are closely related. ShenQiWan is able to regulate the abnormal metabolism of ShenYangXu syndrome. Correlation analysis showed that 28 components were closely related to biomarkers of urine efficacy, and it was identified as playing a key role in the treatment of ShenQiWan. At the same time, 23 potential targets related to thyroid hormone metabolism, tryptophan utilization and the like were identified.

Therefore, Chinmedomics technology is a bridge between Chinese medicine research and molecular biology communication. Chinmedomics will further improve the theory of traditional Chinese medicine and promote the modernization of Chinese medicine with its unique theory.

References:

Research Progress of Traditional Chinese Medicine in Anti-hepatic Fibrosis

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Abstract:
Hepatic fibrosis (HF) is a serious health problem worldwide, which presents as the critical pre-stage of liver cirrhosis. Its pathogenesis is extremely complicated which associated with many types of cells and cytokines. Common pathogenic factors of HF include virus, ethanol, intrahepatic fat deposition, poisons, etc. In recent years, research on the pathogenesis of HF has made great progress, and research on anti-HF drugs and treatment methods has been promoted. However, there is still a lack of specific effective drugs and treatments for the treatment of HF in clinical treatment. Because of traditional Chinese medicine (TCM) has the characteristics of multi-component, multi-link and multi-target, it can exert comprehensive advantages for pathologically complicated diseases and achieve remarkable curative effect in long-term clinical treatment. This article mainly summarizes the research progress in the treatment of LD and HF with TCM in recent years, and explores the mechanism of action of TCM on liver disease.

Key words: Hepatic fibrosis, traditional Chinese medicine

1. Introduction
LD and HF are associated with multiple cell types and cytokines. The cells involved in the development of HF mainly include hepatic stellate cells (HSC), myofibroblasts and macrophages. Specific manifestations of HF are the appearance of myofibroblasts and the accumulation of extra cellular matrix (ECM) \cite{1}. In the pathological development process of LD to HF, TCM formulae shows a satisfactory therapeutic, and can effectively improve the reversal rate of HF. After decades of Chinese medicine treatment of HF, Fuzheng Huayu Capsules/Flakes, Biejiu Ruangan Tablets and Yinchenhao Decoction have been widely used in China and have gained satisfactory clinical effect \cite{2}.

2. Research progress on anti-liver fibrosis of TCM
Fuzheng-Huayu formula is composed of six different herbs. It is commonly used for HF caused by hepatitis B, relieve symptoms such as dizziness, flank pain, dull complexion, weak waist, tiredness, dizziness \cite{3}. Modern clinical research shows that Fuzheng-Huayu formula effectively promote alanine transaminase (ALT), aspartate aminotransferase (AST), total bilirubin
(TBIL). Fuzheng-Huayu formula inhibits the expression of cytokines, such as ACE, Ang II, and AT1R in RAS, and simultaneously reduces the expression of α-SMA, thereby effectively inhibiting the activity of HSCs, delaying the progression of liver fibrosis [4].

Biejia Ruangan formulas is also one of the commonly used anti-fibrosis drugs in TCM. Clinical studies have found that it can significantly improve liver function (ALT, AST, ALP, γ-GGT TBil) in patients with primary biliary cirrhosis, while reduced liver stiffness values and significantly improved primary biliary cirrhosis clinical symptoms such as itchy skin and fatigue [5]. Animal experiments and cell experiments showed that it can inhibit liver fibrosis by down-regulating the TGF-β-Smad pathway for fibrosis signal transduction in vivo and in vitro [6].

Yinchengao decoction is the most authoritative TCM formula for the treatment of dampness-heat jaundice syndrome. Therefore, it has a significant effect on LD and HF caused by dampness-heat jaundice syndrome. Experimental studies have shown that it can significantly improve ALP, ALT, AST, T-BIL, D-BIL, TBA, γ-GT, GSH-Px, MDA, TSOD levels tend to normal, and reduce regional laminar necrosis and edema of liver tissue. After metabolomics analysis, it was found that Yinchengao decoction may play a therapeutic role by regulating bile acid metabolism, glycerophospholipid metabolism, rachidonic acid metabolism, and other metabolic pathways [7].

3. Conclusion

Hepatic fibrosis is a complex chronic liver disease caused by LD, which presents as the critical pre-stage of liver cirrhosis. According to the theory of TCM, the current Chinese medicine treatment for HF is concentrated in the aspects of promoting blood circulation, clearing heat and dampness. At the same time, modern pharmacological research found that the main ways of TCM action include blocking the source of myofibroblasts, strengthening immune regulation, reducing the damage of liver cells and promoting the regeneration of liver cells. However, the pathogenesis of HF is complicated, and it is not complete consistent with TCM syndrome differentiation. Establishing an HF pathology model that satisfies both TCM theory and modern pharmacological testing standards to improve the efficiency of TCM treatment on HF will be the focus of future research.

References

Discovery of the active compounds of Yin Chen Hao decoction by the serum pharmacochemistry and network pharmacology

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Abstract
The active components and effective targets of Yinchenhao Dection (YCHD) were predicted by network pharmacology and serum pharmacochemistry, deciphering the molecular mechanism of the YCHD treatment for jaundice. The 41 active compounds from previous serum pharmacochemistry results were gleaned. The common targets of the compounds absorbed into blood and jaundice were obtained from several database, such as TCMSP, TCM Database@Taiwan and DrugBank. The 79 selected targets were imported into the string platform for the functional enrichment analysis of gene ontology (Go) including cell component, molecular function, biological process and KEGG pathway. As a result, the top 4 biological processes contained response to drug, cellular response to chemical stimulus, response to lipid and response to organic substance. The top 4 KEGG pathway were involved in pathways in cancer, fluid shear stress, atherosclerosis and toxoplasmosis. On basis of the above analysis, the study took a overall understanding of YCHD formula, revealing the targets and material basis of YCHD in treating jaundice.

Key words: Jaundice; YCHD; network pharmacology; serum pharmacochemistry

Yin chen Hao Dection (YCHD), a classic formula for clearing heat, eliminating dampness and deyellowing, was first described in "Treatise on Febrile Diseases" written by Zhongjing Zhang in the Han Dynasty, and consists of Gardenia jasminoides Ellis, Artemisia capillaries Thunb, and Rheum officinale Bail. A large number of studies have shown that YCHD has choleric deyellowing, anti-liver injury, anti-liver fibrosis, hypoglycemic and lipid-lowering, anti-inflammatory, protection of pancreatic tissue, anti-tumor and immune regulation. Although the animal efficacy and clinical efficacy of YCHT are clear, some problems with the complexity and diverse characteristics of its ingredients hinders the quality-markers and hepatoprotective mechanism exploration of the compound. The potential active molecules, key targets and the action mechanism of YCHT has not yet systematically clarified which greatly restricts the development of novel active compound discovery in this area.

Objective
This study aimed to predict active compounds and effective targets of YCHD by network pharmacology, and clarify the molecular mechanism behind YCHD’s effects.

Materials and methods
The targets of the YCHT active ingredients and jaundice disease were revealed by using several database such as TCMSP, TCMDatabase@Taiwan, TCMID, HITdatabase. The common targets analysis results was introduced into the string platform for the enrichment analysis gene ontology (Go) and KEGG pathways.

Results and discussion
The 41 serum components of YCHD including gallic acid, rhamnocitrin, villosolside, chorogenic acid, casticin, naringenin etc. were gleaned for follow-up network pharmacology analysis. The databases were manually searched and information subtracted to obtain targets. As a result, a total of 79 common targets were identified from the serum components-related targets and jaundice-related targets. Using the string database to analyze the biological processes and KEGG pathways of YCHD, 1338 GO biological processes and 165 KEGG pathways were enriched. The most impacted 4 biological processes, in an order of descending –log(p-value) score, contained response to drug, cellular response to chemical stimulus, response to lipid and response to organic substance. The top 4 KEGG pathways were involved in pathways in cancer, fluid shear stress, atherosclerosis and toxoplasmosis.

This integrative approach was valuable for the predictive results of the YCHT ingredients and jaundice targets based on network pharmacology and serum pharmacochemistry. Meanwhile, it was found that the most relevant biological processes and KEGG pathways contribute to discover the
potential effective constituents and targets of YCHD, understand the action mechanism, and explore new clinical application.

References:

Gut microbiota Influence on Chronic Respiratory Disease via Gut-lung Axis

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Abstract: Gut microbiota is the general name of the microbial community living in the human intestinal tract, and it is an important factor to maintain the stability of the environment in the body. Previous studies have shown that intestinal dysbacteriosis, mucosal barrier destruction, and local immune dysfunction may be involved in the occurrence and development of a variety of diseases. Patients with chronic respiratory diseases often have changes in gut microbiota, which affects the immune system and chronic respiratory diseases through the entero-lung axis. Although, mechanistically, this phenomenon remains poorly defined, the existence of the gut–lung axis and its implications in both health and disease could be profoundly important for both disease etiology and treatment. In recent years, with the development of high-throughput sequencing and bioinformatics technology, more and more attention has been paid to the related research. This review focuses on the role of gut microbiota in pulmonary immunity and chronic respiratory diseases through the gut-lung axis.

Keywords: Gut microbiota, chronic lung disease, gut-lung axis

1. Introduction
Our body surfaces are inhabited by trillions of microorganisms collectively referred to as commensal and symbiotic microbiota. Microbial dysbiosis in the gastrointestinal tract contributes to several disorders, including inflammatory bowel disease, asthma and obesity. Although the gut-lung axis has long been associated with respiratory diseases, current studies are elucidating the mechanisms of how microbiota regulate lung inflammation. Chronic lung diseases, such as asthma and chronic obstructive pulmonary disease (COPD), are common and often occur together with chronic gastrointestinal tract diseases, such as inflammatory bowel disease (IBD) or irritable bowel syndrome (IBS). In this review, we summarize the emerging role of the microbiota in the gut–lung axis, highlighting the changes in intestinal microbial composition associated with respiratory disease.

2. The gut microbiota in chronic lung disease
With the development of gut and lung microbial groups, more and more studies have confirmed the existence of the gut-lung axis and explained the relationship between intestinal microbe and chronic pulmonary disease by using the two-way regulation. The TCM theory of "The exterior-interior relationship between the lung and the large intestine" and "spleen and lung are interrelated" emphasize the physiological coordination and pathological interaction between respiratory system and digestive system from the connection of viscera and meridians.

2.1 Asthma
Asthma is one of the most common chronic respiratory diseases worldwide \(^5\). The overall composition of the gut microbial community is not altered in infants at risk of the development of asthma, but subtle transient changes in select taxa can be detected in the first few months of life\(^6\). Increased risk of asthma has been associated with an increase in the abundance of B. fragilis and total anaerobes in early life. The differing composition of the lung microbiome between asthmatic and healthy people suggests that bacteria may contribute to the initiation of asthma, also indicating a possible important role in influencing the immune responses for microbiota residing in other sites, such as the gut. This has led to the concept of the “gut–lung axis”.

2.2 Chronic obstructive pulmonary disease (COPD)

COPD is a common chronic pulmonary disease in middle-aged and old age. There are substantial differences between the lung microbiota of patients with COPD compared with ‘healthy’ smokers, which led to the proposal that the respiratory microbiota may be useful in the early diagnosis of COPD. Epidemiological investigation found that the incidence of IBD in patients with respiratory diseases such as COPD increased, and IBD was also one of the risk factors of COPD and asthma\(^7\). Although the microbial detection methods are constantly updated, it is still not possible to fully interpret the relationship between the gut microbiota and the pulmonary immune, the lung microbiota and the development of COPD need more research support to better interpret the relationship.

2.3 Respiratory infection

A variety of studies in recent years has focused on the microbiota during chronic airway disease. However, little is known about how viral and bacterial infections, the underlying causes of exacerbations of chronic lung disorders, can shape the microbiota. The gut microbiota is broadly protective against respiratory infection, as its depletion or absence in mice leads to impaired immune responses and worsens outcomes following bacterial or viral respiratory infection\(^8\).

3. Conclusion and outlook

Gut microorganisms participate in and promote the development of immune system in early life, and affect the whole body and lung immunity through blood and lymphatic system. By adjusting gut microbiota, asthma, pulmonary infection and other diseases can be alleviated, and the incidence can be reduced. All these are important evidences of gut microorganisms affecting lung diseases. Pulmonary microorganisms play an important role in lung immunity and the development of common chronic lung diseases, although they are changeable and stay in the lungs for a short time. At present, many mechanisms between the gut-lung axis are hypothesis or general discussion. There are various difficulties in the study of the specific mechanism, pathway and effectiveness. However, more and more animal experiments and clinical trials will focus on the hot spots of gut and lung microbiota and gut-lung axis.

It is believed that in the near future, with the development of science and technology, more probiotics with definite mechanism can be isolated from the biological function culture of various microorganisms. It is believed that the gut-lung axis and its related immune mechanism can be further interpreted as lung chronic disease offers some new biotherapy.

References

Traditional Chinese Medicine Treating Diseases by Adjusting Brain-Gut-Microbial Axis

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Abstract
The imbalance of intestinal flora is not only related to intestinal diseases, but also related to extra-intestinal diseases, such as breast cancer and liver cancer. The influence of intestinal hormones and intestinal microorganisms is not limited to the intestinal tract, but also acts on the central system through the brain-gut axis, affecting glucose metabolism. Through the modern research of traditional Chinese medicine, it is found that the occurrence of diseases will cause the disorder of intestinal flora. At the same time, many drugs treat diseases by acting on the gut - brain axis and affecting intestinal flora.

Key words: Brain-gut axis, polypharmacy

1. Brain-gut axis
The brain-gut axis is a communication system that integrates nerves, hormones and immune signals between the brain and the intestine. Intestinal microflora and its metabolites can participate in the regulation of nervous system functions through a series of pathways, thus affecting the pathogenesis of neuro-related diseases. The nervous system also influences the composition and quantity of intestinal microorganisms through these pathways. Due to the complex relationship between intestinal microbiome and host, a new concept was proposed: microbial-brain-gut axis. [1]

Intestinal microorganisms act on the brain-gut axis mainly through neural pathways, neuroendocrine pathways, immune communication, microbial metabolites, blood-brain barrier and other mechanisms. [2] Some foreign experts have shown that there is indeed a link between intestinal flora and cerebral ischemia. Benakis C et al. found that the changes in intestinal flora induced by antibiotics can reduce cerebral ischemia injury in mice, and this effect can be applied to other mice through fecal transplantation. [3] Cerebral ischemia injury can cause the symptoms of multiple organ failure, among which the incidence of gastrointestinal failure is the highest, mainly manifested as gastrointestinal dysfunction, malabsorption, stress ulcer, and even induce gastrointestinal bleeding, enterogenic infection, etc. [4] These studies have demonstrated the interaction between the gut and brain.

2. TCM treatment based on Brain-gut axis
Some polypharmacy act on the brain-gut axis during the treatment of diseases. Yu Lin et al. observed the changes in food intake of the rats in each group, and measured their visceral sensitivity and serum d-xylene content. Finally, radioimmunoassay was used to determine the content of serum cerebral intestinal peptide somatostatin (SS) and gastrin (GAS). The results showed that the gastrointestinal function of depressed rats decreased significantly. Adjusting the abnormal level of enteropeptide through the brain-gut axis pathway may be one of the ways to improve the gastrointestinal dysfunction of rats under the condition of depression. [5] Black Dihuang Pill can
obviously improve the chronic renal failure (CRF) patients with spleen deficiency syndrome, reduce blood Ser, increase Hb, ALb and TP, reduce blood Ghrelin levels, elevated blood SS content, increase the rat body weight, food intake and swimming time, reduce proteinuria in rats, improve the level of Ghrelin in the stomach tissue homogenate and SS, reduce rat plasma Ghrelin concentrations, elevated plasma concentration of SS, raising Ghrelin and SS in the expression of hypothalamus. Black Dihuang Pill can effectively improve the spleen deficiency syndrome of chronic renal failure by regulating the brain-intestinal axis. [6]

Future Perspective:

The main feature of polypharmacy is that they act on diseases with multiple targets, and their mechanism of action is complex. In the process of treating diseases, they not only reflect the changes in the general pathological state or biomarkers of diseases. Therefore, the efficacy of traditional Chinese medicine should be evaluated by various indicators, such as changes in intestinal flora.

Reference:

Study on the attenuation mechanism of traditional Chinese medicines

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Abstract
Chuanwu (CW), is the mother root of Aconitum carmichaelii Debx., was firstly documented in Shennong Bencaoqing. It has functions of Dehumidification, warming and relieving pain. Because of CW on the heart and central nervous system, the toxicity of the nervous system limits its clinical application. So it is often used in combination with other traditional Chinese medicines to achieve the purpose of promoting the efficacy of CW and reducing the toxicity of CW. At present, It has reported that CW often is compatible with Gancao, Baishao, Ganjiang, Huangqi, Mahuang in the literature. And its attenuating mechanism is regulation or action on alanine, aspartate and glutamate metabolism, purine metabolism, tryptophan metabolism, etc. Metabolic pathways induce efflux transporters, inhibit cytochrome P450 3A and reduce diester alkaloids. Based on the mechanism of action, the understanding of the toxicity of CW is improved, and a more accurate and effective method of attenuating is provided.

Key words: CW, attenuating mechanism, metabolism, efflux transporter, cytochrome P450 3A
1. Regulate metabolic pathways affecting attenuation mechanisms

Based on the metabolomics finding of UPLC-QTOF-HDMS technology combined with pattern recognition analysis was applied to study the metabolic changes caused by CW and biomarkers associated with Gancao (Radix Glycyrrhizae, CG), Baishao (Radix Paeoniae Alba, CS) and Ganjiang (Rhizoma Zingiberis, CJ). Identification of 17 biomarkers associated with CW toxicity are involved in several key metabolic pathways linked to pentose and glucuronate interconversions, alanine, starch and sucrose metabolism, aspartate and glutamate metabolism, purine metabolism, amino sugar and nucleotide sugar, tryptophan metabolism, fructose and mannose metabolism, taurol and hypotaurine metabolism, and fatty acid metabolism. Of note, the levels of these toxicity biomarkers were modulated to the normal ranges by the compatibility drugs, CG, CS and CJ [1-4].

2. Induction of efflux transporter and inhibition of CYP3A metabolic enzymes affecting attenuation mechanism

Efflux transporters (such as P-glycoprotein (P-gp), breast cancer resistance protein (BCRP) and multidrug resistance-associated protein isomorph 2 (MRP2)) affect toxic absorption and play an important role in avoiding poisoning. The cytochrome P450 3A(CYP3A) isozymes together form the largest part of the liver and small intestine CYP proteins, which are involved in 45-60% of the metabolism of currently used drugs. CYP3A is the main metabolic enzyme of aconitine. The CW toxicity efflux is mainly mediated by P-glycoprotein (P-gp) and CYP3A metabolizing enzyme [5-7]. The flavonoids and triterpenoids in Gancao can induce P-gp. The active constituents in Gancao have inhibitory effects on CYP450. Astragalus IV, calycosin and formononetin in Huangqi have function of inducing P-gp, and astragaloside IV has an effect of inhibiting CYP3A4. Besides, it is found that ephedra is a potential P-gp inhibitor by promoting the accumulation of Rhodamine 123 in Caco-2 cells. Pseudoephedrine has a certain inhibitory effect on the activity of CYP1A1/2 and CYP2E1, and the inhibitory effect is enhanced with the increase of pseudoephedrine concentration.

3. Reduce the attenuation of diester alkaloids

Studies have shown that CS and CJ can reduce the content of diester alkaloids. Meanwhile, compatibility with Baishao can also produce monoester alkaloids with better anti-inflammatory activity, reduce damage to H9c2 cells, and play an important role in reducing toxicity and increasing efficiency.

With the development of research and technology on the toxicity of more toxic traditional Chinese medicine, we can research the compatibility mechanism of traditional Chinese medicine to achieve the maximum efficacy and minimal toxicity of CW. The attenuated mechanism, in addition to material basic research, can also comprehensively be investigate by the drugs, their active ingredients, metabolic pathways, transporters and metabolic enzymes to achieve this.

References:
Type 2 diabetes treatment with traditional Chinese medicine acting on gut microbiota

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Abstract

Microorganisms parasitic in the human intestine, known as intestinal microflora, play a central role in human physiology and metabolism. Understanding how intestinal microflora affects and regulates key metabolic functions, such as glucose regulation and insulin resistance, is an important health issue. Intestinal flora is involved in the beneficial hypoglycemic effect of antidiabetic drugs and has been proved to be a promising target for the treatment of T2DM and glucose control disorders. Relevant Chinese medicines or prescriptions have also been shown to prevent or treat diabetes. In this paper, we reviewed the progress of intestinal bacteria in the treatment of diabetes mellitus in recent years, and explained the mechanism of traditional Chinese medicine in the prevention and treatment of diabetes mellitus through intestinal flora.

Key words: Gut microbiota; Type 2 Diabetes; Traditional Chinese medicine

Type 2 diabetes is characterized by increased hepatic glucose production, insensitivity to insulin, and ultimately insufficient insulin secretion. The pathogenesis of the disease is heterogeneous, including disorders of glucose metabolism, systemic inflammation and local inflammation. The diagnosis of T2DM is elevated blood sugar (hyperglycemia), which is a sign of the disease. Hyperglycemia is due to insulin resistance and insufficient insulin secretion. As the function of beta cells is impaired, the blood sugar level can not be controlled over time. It has been found that the composition/function of intestinal microflora may contribute to the regulation of blood sugar and insulin sensitivity in the host. Intestinal microflora is involved in the beneficial hypoglycemic effect of anti-diabetic drugs, and it has been confirmed that intestinal microflora is a promising target for the treatment of T2DM and glycemic control injury.

Studies have shown that key biological and molecular mechanisms underlying the effects of intestinal microflora on host blood sugar control include insulin secretion, short-chain fatty acid production, bile acid metabolism and adipose tissue regulation. These mechanisms include: (1) increasing insulin secretion by directly inducing GLP-1 production or by increasing the number/differentiation of enteric endocrine cells; (2) producing SCFAs bacteria that have beneficial effects on intestinal gluconeogenesis, intestinal wall integrity, insulin secretion and pancreatic function. SCFAs has been shown to induce total beneficial metabolic effects in these peripheral tissues[1]; (3) metabolizing bacterial l1 bile acid contributes to the diversity of bile acid pools and induces local and weekly bile acid pools. Peripheral signal transduction effects, including the production of fibroblast growth factor 19 in the intestine; (4) Adipose tissue regulation is mainly through the regulation of lipopolysaccharide-mediated inflammation and the induction of browning of white adipose tissue[2].

According to the existing literature, the effects of antidiabetic herbal medicines on the gut microbiota have the following rules: (1) regulation of the microbiota structure by increasing microbial diversity and reducing the Firmicutes/Bacteroidetes(F/B)ratio; (2) increasing the anti-inflammatory bacteria such as Bifidobacterium, Lactobacillus, Akkermansia, and...
Faecalibacterium; (3) increasing the SCFAs producing bacteria, such as Roseburia and Eubacterium, and promoting the concentration of SCFAs in the intestine; (4) decreasing the abundance of pathogenic bacteria such as Escherichia coli and Enterococcus. These changes in the gut microbiota may trigger a series of chain reactions that may then improve the glucose metabolism of the hosts\textsuperscript{[5]}.

So, the preservation a normal and healthy gut microbiota plays a critical role in maintaining good health. Bacteroidetes and Firmicutes, including species of the Ruminococcus, Lactobacillus and Clostridium genera, constitute over 90% of the known phylogenetic categories and dominate the healthy intestinal microbiota\textsuperscript{[4]}.

Many traditional Chinese medicines or prescriptions can treat diabetes mellitus in China. For example, Scutellaria baicalensis Coptis is one of the famous Chinese medicines for treating diabetes mellitus in many traditional Chinese medicines. It has been treated for thousands of years in China. Modern studies have found that SC can regulate the structure of intestinal flora. The anti-diabetic effect of SC is attributed to its regulation of intestinal flora and anti-inflammatory effect involving TLR4 signaling pathway\textsuperscript{[5]}.

References:


Recent Progress in Pathogenesis and Treatment of Rheumatoid Arthritis

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Abstract

Rheumatoid arthritis (RA) is a chronic, progressive, multiple, invasive, joint synovitis and extra-articular lesion Autoimmune diseases, which are mainly clinical manifestations. RA pathogenesis Miscellaneous, there is no specific treatment, clinically used to treat RA a variety of drugs, new drugs and new treatments are also emerging, mainly including non-steroidal anti-inflammatory drugs, slow-acting anti-rheumatic Medicines, glucocorticoids, biological agents, and traditional Chinese medicines and traditional Chinese medicine preparations. The main drugs for the treatment of RA in the domestic market are non-steroidal anti-inflammatory drugs, slow-acting anti-rheumatic drugs, and glucocorticoids. And Chinese medicine preparations. Traditional Chinese medicine and traditional Chinese medicine preparations have unique advantages in the treatment of RA. They show the characteristics of overall regulation, multi-level and multi-target, and can also alleviate and counter western medicine. Toxic side effects have received more and more attention in recent years. This article reviews the research progress and treatment characteristics of commonly used drugs for the treatment of RA in recent years. Provide reference and basis.
Key words: Rheumatoid arthritis, pathogenesis, medicine, traditional Chinese medicine

Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease characterized by symmetric synovitis and extra-articular lesions. Symmetrical polyarthritis of the surrounding joints is the main feature, most of which invade the hand. Small and medium joints such as the foot and wrist are in a chronic process, with alternating attacks and remissions. The main pathological changes were inflammatory cell infiltration of the synovial membrane, vasospasm formation, erosion of cartilage and bone tissue. Statistics show that RA has morbidity worldwide, with an average incidence of 0.5-1%. RA can occur in adolescents, adults and the elderly, and the incidence of women is usually 2-3 times that of men, and the prevalence of RA in China is about 0.3%. The cause of the disease is still unclear, and it is generally believed to be related to the environment, heredity, infection, endocrine, and trauma. Patients with RA are prone to bone destruction, causing varying degrees of joint dysfunction and deformity, ultimately leading to labor loss. RA is characterized by multiple manifestations, refractory, poor prognosis and great harm. It is of great significance to find effective treatment measures for the pathogenesis of RA.

1. Current status of research on treatment of rheumatoid arthritis with western medicine

At present, the drugs for the treatment of RA are divided into four generations according to the time and principle of development: the first generation is non-steroidal anti-inflammatory drugs; the second generation is glucocorticoid; the third generation is the change of disease drugs (slow-acting anti-rheumatic drugs). The fourth generation is an early biological agent based on TNF-α inhibitors.

1.1 Non-steroidal anti-inflammatory drugs

Nonsteroidal Antiinflammatory Drugs (NSAIDs) are the first generation of therapeutic drugs for RA. Representative drugs include aspirin and diclofenac. This class of drugs mainly catalyzes the inactivation of cy-clo-oxide-nase (COX-1) and COX-2, thereby blocking the production of prostaglandins by arachidonic acid via cyclooxygenase. The substance acts as an anti-inflammatory and analgesic. NSAIDs have no therapeutic effect on joint destruction, and the prominent side effect is gastrointestinal symptoms.

1.2 Glucocorticoid

Glucocorticoid is the second-generation treatment of RA. Its mechanism of action is that glucocorticoids bind to the glucocorticoid receptor and reach the nucleus, which reduces the activity of NF-κB and reduces the production of pro-inflammatory cytokines, thus effectively Reduce inflammation. These drugs can not block the progression of RA and joint destruction, long-term use can induce side effects such as infection, hypercorrosion, osteoporosis and hypertension; but the application of small doses, short courses can be alleviated by anti-inflammatory and anti-allergic effects symptom.

1.3 Change the condition (Slow acting antirheumatic drug)

Disease Modifying Anti-Rheumatic Drugs (DMARDs) or Slow Acting Anti-Rheumatic Drugs (SAARDs) are the third generation of therapeutic drugs for RA. This class of drugs includes antimalarials, gold preparations, and cytotoxic drugs. DMARDs mainly control the development of joint disease by reducing synovial inflammation, and even play a role in repair, but most of them have large side effects such as vomiting, rash, leukopenia and liver and kidney dysfunction.

1.4 Early biological agents based on TNF-α inhibitors

Early biologic agents based on TNF-α inhibitors are the fourth generation of drugs for the treatment of RA. Because of their advantages in pharmacological action and low toxic side effects, biological agents will have broad application prospects. TNF-α inhibitors In the biological agents for the treatment of RA, the most clinically studied is the inhibitor of TNF-α. Currently, three TNF-α inhibitors, etanercept, infliximab and adalimumab, have been approved for the treatment of RA.

2. Research status of traditional Chinese medicine in the treatment of rheumatoid arthritis

The pharmacological effects of traditional Chinese medicine in the treatment of RA are complex and diverse, with multiple targets, multiple pathways, multiple links and overall regulation. It has anti-inflammatory, analgesic and immune regulation effects, with remarkable curative effect, small
side effects, and some single-flavored drugs and The compound preparation has been applied clinically and has certain advantages for the treatment of RA. Clinical practice has also proved that traditional Chinese medicine has achieved remarkable curative effect on oral, topical, unilateral or combination therapy, avoiding the toxic side effects of chemical drugs, and is suitable for long-term use, showing the advantages of traditional Chinese medicine treatment. Chinese medicine for the treatment of RA in traditional Chinese medicine is commonly used in the form of scattered wind, cold, and dampness. The main active ingredients of traditional Chinese medicine, such as glycosides, alkaloids, flavonoids and terpenoids, have resistance Inflammation, analgesia and immune regulation, Chinese medicine has a significant effect on the treatment of RA.\(^3\)

**Discussion**

The treatment of RA should follow the principle of standardized treatment, namely early treatment, Combination medication, individualized treatment, use of new drugs. On the one hand Anti-inflammatory drugs (NSAIDs) alleviate the symptoms of joint swelling and pain. On the other hand, anti-rheumatic drugs (DMARDs) that can relieve the disease should be combined to control the progress of the disease. Select An individualized treatment plan with good curative effect and no obvious adverse reactions is to control the disease. The key to improving the prognosis of RA. RA patients with poor efficacy in traditional medicine New anti-rheumatic drugs should be used in a timely manner. Most of the clinical applications are combined Anti-rheumatic drugs for the treatment of patients with rheumatoid arthritis, each treatment drug Insufficient supplementation, to reduce toxic side effects, improve patient symptoms, and effectively control the disease. The purpose of the exhibition.

**Conclusion**

At present, the disease is still unable to cure, mainly relying on Western medicine to maintain treatment, but due to its adverse reactions, many patients can not tolerate, and the incidence of drug-induced diseases caused by inappropriate Western medicine treatment is higher. Natural medicines based on traditional Chinese medicines are not only widely sourced, rich in variety, have small adverse reactions, but also have the characteristics of multiple links, multiple levels and multiple targets. Therefore, they have unique advantages in the treatment of RA.

**References**


**Diagnostic Methods and Traditional Chinese Medicine Treatment for Coronary Heart Disease**

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**Abstract**

Coronary heart disease (CHD) is one of the most common cardiovascular diseases in clinic. For a long time, the morbidity and mortality rate rank the first among all kinds of heart disease, which seriously endangers human health and affects the quality of life of patients. In clinic, examination of CHD can be divided into two categories: non-invasive and invasive. Coronary angiography is called the “golden standard” for the diagnosis of CHD. The treatment of CHD can be studied from “drug
therapy”, “interventional therapy”, “surgical treatment” and “gene therapy”. Among them, “drug therapy” as the basis of treatment can be divided into ‘chemical drug treatment’ and ‘traditional Chinese medicine treatment’ (TCM). In comparison, although TCM has small side effects and no obvious drug dependence then chemical drugs, but chemical drugs are widely used in the prevention and treatment of coronary heart disease due to it has the characteristics of quick effect and clear mechanism of action.

**Key words:** Coronary heart disease, Traditional Chinese medicine, Imbalance of antioxidant

According to research, the imbalance of antioxidant caused by excessive production of reactive oxygen species or insufficient scavenging capacity is an important mechanism for the occurrence of CHD. In addition, some TCM such as: Panax notoginseng\(^1\) and pomegranate seed oil(PSO)\(^2\), they have the ability to inhibit peroxidation, improve antioxidant enzyme activity and reduce oxidative stress, thereby reducing the occurrence of CHD\(^3;4\).

At present, the treatment of CHD by regulating the antioxidant function has a significant effect in TCM. But in some respects, there are still some deficiencies in the mechanism of treatment. In addition, there is a lack of uniform standards in the selection and dosage of medicines. Therefore, it is necessary to thoroughly study the mechanism of action of TCM and strengthen the development and utilization of effective ingredients in TCM, so as to realize the modernization of TCM.

**References:**


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**Application Advantage and Development of Traditional Chinese Medicine**

Liu Yang, Aihua Zhang, Guangli Yan, Hui Sun, Ying Han, Xijun Wang*

**Abstract:** Traditional Chinese medicine is a unique traditional medicine. Based on inheritance, we must promote innovation with modern scientific and technological concepts and accelerate the internationalization of Chinese medicine.

**Keywords:** Chinese medicine, theory inheritance, technology innovation

1. **Inheritance advantage of traditional Chinese medicine**

   Inspired by the ancient medical book "Elbow Reserve", Chinese scientist Tu Yu discovered the artemisinin, a drug for the treatment of malaria, and won the Nobel Prize in Physiology and Medicine, which has won wide attention and recognition from the international community. Traditional Chinese medicine contains many classic prescriptions with definite curative effect. Its effectiveness and safety have been verified in the struggle of the Chinese nation and disease for thousands of years. It should be innovated in combination with modern technology in inheritance and developed in innovation.

2. **Innovative development of Chinese medicine**

   From "Yellow Emperor's Internal Classics" to "Treatise on Febrile Diseases", Chinese medicine has formed a unique theoretical system of disease prevention and treatment; during the Jin and Yuan Dynasties, a hundred schools of thought contend, further promoting its innovative development; Ye Tianshi of the Qing Dynasty established on the basis of predecessors The method
of syndrome differentiation and treatment of "weiqiyingxue" shows that Chinese medicine has been innovating in inheritance and continuing to develop in innovation. In modern times, due to the impact of Western medicine, the development of Chinese medicine is slow. Zhang Xichun first proposed to use traditional Chinese medicine as the main body to conduct traditional Chinese medicine research with the help of Western medicine. Under the premise of inheriting the essence of traditional Chinese medicine, the scientific connotation of traditional Chinese medicine is explained through modern science and technology, and the mechanism of action and material basis are clarified. Modern Chinese “language” is used to explain the innovative development of traditional Chinese medicine. The organic combination with modern technology has made great progress in Chinese medicine. For example, the traditional Chinese medicine syndrome metabolomics, which uses metabolomics technology to discover TCM biomarkers, combines traditional TCM syndromes with modern technology, and fully clarifies the scientific and correctness of TCM.

3. Outlook
Traditional Chinese medicine is China's most original and innovative and most competitive resource and field. It should be innovative in inheritance and sustainable development in innovation. Drawing on the cutting-edge progress of modern science, we will continue to develop the cause of Chinese medicine.

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Recent Progress in Pharmacological Effects of Ginsenoside

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Abstract
Panax ginseng was first recorded in Shennong Herbal Classic as a top-grade medicinal materialand is produced in northeastern China, Korea, Japan and Eastern Russia. Ginseng has complex chemical constituents and unique pharmacological effects, so it has high application value. In this paper, the chemical constituents of ginsenosides which are the main active constituents of Ginsengwere analyzed. and the pharmacological effects on anti-cancer, anti-aging, nervous system protection and immune regulation were summarized.

Keywords:ginsenoside; chemical constituents; pharmacological effects

Ginseng is a kind of protective plant in China. It is the dried root and rhizome of Panax ginseng C.A.Mey. It has the functions of regulating qi and nourishing blood, soothing mind and improving intelligence, generating body fluid and relieving cough, nourishing and strengthening the body. The main active components of ginseng are ginsenosides, polysaccharides, volatile oil, trace elements, amino acids, protein polypeptides, vitamins and other compounds, among which the main active component is ginsenoside. In pharmacology, ginsenoside has the functions of anti-cancer, anti-aging, protecting nervous system, immune regulation and so on.

1. Chemical Constituents of Ginsenoside
Ginseng contains many active ingredients, among which ginsenosides are very important. About 200 kinds of ginsenosides were reported, including the main ginsenosides (Rb1, Rb2, Rc,
Rd, Re, Rg1, etc.) and a small amount of ginsenosides (rg3, rh1, rh2, etc.). Ginseng saponins have similar basic structures. They all contain steroid nuclei arranged by 30 carbon atoms into four rings. They were divided into two groups according to the different glycoside structure: Damarane triterpenoid saponins and oleanolic triterpenoid saponins. Damarane type includes two types: Panaxadiol type contains the most ginsenosides, such as ginsenoside Rb1, Rb2, Rb3, Re, Rd, Rg3, Rh2 and glycoside PD; Panaxadiol type contains ginsenoside Re, Rg1, Rg2, Rh1 and glycoside PT.

2. Pharmacological Study of Ginsenoside

2.1 Anti-Tumor Effect

Studies have shown that ginsenoside Rg3 can inhibit cell cycle pathways by inhibiting the synthesis of proteins, RNA and DNA in the prophase of mitosis, thus affecting DNA replication, growth and repair signals. 20(R)-ginseng saponins suppress the growth of H22 transplant tumors in vivo, and the highest inhibition rate is 46.8% (p<0.05).

2.2 Effect on nervous system

Ginseng saponins can regulate striatal dopaminergic neuron system and dopaminergic activity of pre-and post-synaptic dopamine receptors. Ginsenoside Rg1 can regulate the level of neurotransmitters in the brain, regulate important proteins in the brain and protect other neurons. The mixture of ginsenoside Rb and Re has stabilizing and analgesic effects on the central nervous system of mice, as well as central muscle relaxation, cooling and reducing spontaneous activity.

2.3 Anti-aging

Ginsenoside has a significant anti-aging effect on mouse skin, can significantly improve the activity of skin antioxidant enzymes and enhance the activity of fibroblasts. Ginsenoside Rg1 can effectively improve SOD activity of erythrocyte, liver and skeletal muscle, reduce MDA content in serum, liver and skeletal muscle, and enhance the antioxidant capacity of the body.

2.4 Immune regulation

The derivatives of ginsenoside Rh2 can promote the secretion of TNF-γ and the proliferation of lymphocyte, which can significantly enhance the function of macrophages after sulfation modification. Ginsenoside Rg1 promotes the secretion of immune effector factors IL-2, INF-γ and IL-12P40 by tumor immune cells and enhances the immune response of the body.

3. Discussion

Ginseng saponins and polysaccharides are the main active ingredients of ginseng, and their pharmacological effects are diverse, involving anti-cancer, anti-aging, nervous system protection, immune regulation and other fields, but there are still areas to be explored and improved.

Ginseng contains a large number of trace elements, but the content of some trace substances in ginseng is very low, the purification process is complex and the yield is not high. Therefore, it is necessary to create a simple and effective purification method in order to obtain trace substances with high efficiency and purity. With the discovery of the diversified chemical structure of Ginseng, the chemical constituents and pharmacological effects of Ginseng will be further revealed.

References

Liquid chromatography–mass spectrometry analysis of ligustilide and Sedanonie acid in vivo of rhizome of Chuanxiong and Wine Chuanxiong

Ning Zhang, Guangli Yan, Aihua Zhang, Hui Sun, Ying Han, Xiaohang Zhou, Xijun Wang*
Abstract

Objective: To compare the differences in chemical composition metabolism between rhizome of Chuanxiong and Wine Chuanxiong, and to study whether the wine cellar has an effect on the composition of Chuanxiong. Methods: The active constituents of rhizome of Chuanxiong and Wine Chuanxiong were extracted by water decoction. The rats were orally administered with plasma at different time points. LC-MS was used to semi-quantitatively analyze two of the prototype compounds and 8 metabolites. Results: The amount of 10 blood components in the wine cellar was lower than that of the raw materials, but the blood absorption was better than the raw products. Conclusion: Chuanxiong wine cellar has an effect on the composition of Chuanxiong. The sultry of rice wine may cause the components in Chuanxiong to react and affect the blood absorption of the active ingredients of Chuanxiong.

Key words: Chuanxiong, prototype compound, metabolite, liquid chromatography-mass spectrometry

Objective

Rhizome of Chuanxiong spicy scented, blood and qi, strong wind and strong pain, the ancient wine cellar after the introduction of medicine, enhance the role of blood circulation and pain relief[1]. The complex composition of traditional Chinese medicine is impossible to clarify its composition one by one. Any drug works by interacting with the human body, so first consider the role of the human body in the drug should be the focus. This experiment mainly studied the two substances found in rats and the related blood components. The effects of wine cellar on the efficacy of Chuanxiong and its metabolism were studied[2].

Materials and methods

Chuanxiong, heparin, rice wine, acetonitrile, ultrapure water, healthy SD male rats, gavage needle, RF-5298 rotary evaporator (Shanghai Yarong Biochemical Instrument Factory), 0.9-1.1 capillary, CZB1002 analytical balance (Zhuji City Chaoze Weighing Equipment Co., Ltd.), AX224ZH/E electronic analytical balance (one thousandth, Ohaus Instrument Co., Ltd.), KQ2200E ultrasonic cleaning device (Kunshan Ultrasonic Instrument Co., Ltd.), HC-2518 high-speed centrifuge (Anhui Zhongke Zhongjia Scientific Instrument Co., Ltd.), pipetting gun (Beijing Dalong Xingchuang Experimental Instrument Co., Ltd.), 1.5mL centrifuge tube, Thermo ScientificTMQ ExactiveTMFocus quadrupole-orbitrap mass spectrometer (Thermo Fisher Technology Co., Ltd)


Preparation of the test solution of rhizome of Chuanxiong and Wine Chuanxiong : Extracting Chuanxiong twice with water decoction extraction method, adding water for 6 times for the first time, soaking for 20mim, boiling for 30min, adding water for 4 times for the second time, boiling the same as above, filtering, combining the filtrate, and concentrating to the crude drug containing 1g/ml spare. The wine cellar Chuanxiong is the same as the law, and it is used for extraction.

According to the adult daily dose of Chuanxiong, the maximum dose of 9g, adult weight is 60kg, that is, 0.15g/kg per day, so choose a high dose (20 times of adult dosage) as the dose, that is, 3g/kg of crude drug. SD rats were randomly divided into two groups, and the doses were calculated by weighing. The two groups were respectively administrated with rhizome of Chuanxiong and Wine Chuanxiong, and given a week of gavage. After the last intragastric administration, 0.5 ml of blood was taken from the fundus venous plexus at 30 min, 180 min, 360 min, placed in a heparin-treated centrifuge tube, centrifuged for 20 min (20000 r/min), and the upper plasma was aspirated and 100 μL was taken. In a centrifuge tube, 300 μL of mass spectrometry acetonitrile was added to precipitate the protein, which was placed in an ultrasound system for 3 min. After being taken out, it was centrifuged at 20000 r/min for 10 min. After taking out, the supernatant was taken and the
Results and discussion

Through semi-quantitative analysis of 10 blood components, it is preliminarily determined that the wine cell will affect the composition of Chuanxiong. The amount of 10 blood components in the wine cell Chuanxiong began to be less than that of the raw materials, but its blood absorption was better than that of the raw products.

From the above results, it can be seen that there is a heating process in the wine cell, which may reduce some volatile components, but with yellow wine will increase the blood absorption of these components, and can make Sedanonic acid and Sakamoto lactone in vivo. The action time is extended. This may be due to some reaction of some ingredients in yellow wine and Chuanxiong, or a reaction in rats to promote the effect of some of the active ingredients of Chuanxiong into the blood to promote the absorption of these ingredients. The wine cell enhances the pharmacological activity of Chuanxiong. For the ancient curative effect of the traditional wine cellar method to find the enhanced curative effect of Chuanxiong found a modern scientific basis.

References:

Study on acute and chronic toxicities of Potentilla discolor Bunge. Tablets

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Abstract

Potentilla discolor Bunge, recorded first in the “Herbal for Relief of Famines”, was the whole plant with roots of Potentilla discolor Bunge from potentilla of Rosaceae. Maximal tolerated dose was established in rats for acute toxicity evaluation. In the chronic toxicity study, the rats were randomly divided into high, medium and low dose groups and given intragastrically for 6 days a week for 90 days and 15 days for recovery. The signs, diet, body weight and other signs of the rats were observed, and the morphology, hematolology, organ morphology, blood biochemistry and histopathology were examined. No death was observed in mouse acute toxicity test. The maximal tolerated dose was 30g/kg, equivalent to 320 times of the clinically recommended dose. Long term toxicity test showed that the middle dose of Potentilla discolor could increase the albumin value of rats during convalescence, but it did not have clinical biological significance and has no significant influence on other blood biochemical indexes. Under the conditions of this experiment, the granules has no obvious toxic reaction to the tested animals, and the safe dose effective dose, the long-term drug use is safe.

Key words: Potentilla discolor Bunge. tablets; Acute toxicity; Chronic toxicity
effects of heat-clearing, detoxifying, sneezing, and hemostasis \cite{1}. Pre-experimental results have shown that Potentilla discolor Bunge. tablets has the effect of treating type 2 diabetes, and a large number of experimental studies have also shown that Potentilla discolor Bunge. tablets has a significant hypoglycemic effect \cite{2-4}, and has great development prospects. However, its safety is not clear, and it is impossible to determine the clinical safety dose and safe medication cycle. In order to investigate the safety of Potentilla discolor Bunge. tablets, the general pharmacological tests, acute toxicity test and long-term toxicity test of medication were studied for the first time in this experiment.  

**Objective**

To investigate possible acute and chronic toxicities of *Potentilla discolor Bunge*. Tablets for clinical reference.

**Materials and methods**

*Potentilla discolor Bunge*. preparations were orally administered to mice at the highest concentration and maximum dose. Observe the reaction of the animal for one week and observe whether there is any death. If there is no death, the maximum tolerated amount is measured and the acute toxicity of PDB preparations is evaluated. In the chronic toxicity study, the rats were randomly divided into high, medium and low dose groups and given intragastrically for 6 days a week for 90 days and 15 days for recovery. Then blood was taken and paraffin sections were prepared for general morphology, hematology, blood biochemistry, organ morphology and histopathology. A total of 40 male and female mice were divided into high-, medium-, low-dose and blank-dose groups of *Potentilla discolor Bunge*. preparations and orally administered. Observed its general behavior, autonomic activity, synergy, and the synergistic effects of subthreshold sodium pentobarbital; Then observe its influence on the respiratory system, nervous system and cardiovascular system of rats, and evaluate the general pharmacological effects of *Potentilla discolor Bunge*. on animals.

**Results and discussion**

The results of the maximum tolerant dose test on mice show that the maximum dose that mice can tolerate is 30.0g/kg, which is equivalent to dried medicinal herb 53.57g/kg. The results of long-term tolerant test on rats show that PDB will not affect the normal behaviour, weight, food intake, blood routine and the major organ index obviously. Long-term and high dose administration of PDB may raise the value of ALb of female rats, but they all can recover after stopping treatment. The result is shown in Fig.1. And there is no effect on the other items.

The pathological tissue was observed under a microscope: The organs of the heart, liver, spleen, kidney, testis, brain and pancreas of the high-dose group and the low-dose group had no obvious pathological changes in appearance, volume or capsule. Some female rats showed a small amount of inflammatory cell infiltration in the brain and pancreas of the high dose group during the administration period, and pus cells appeared. But in the recovery period, inflammation disappears. Long-term and high dose administration of PDB may damage livers of rats slightly, but it is reversible. Long-term and high dose administration of PDB will not apparently affect heart, spleen, lung, kidney, adrenal gland, ovary and testis of rats. So it can be proved that PDB has no apparent toxicity and it is safe.

A: blank control group  
B: high dose group  
C: middle dose group  
D: low dose group
Figure 1 Changes of blood biochemical indexes of female rats after administration of PDB ($\bar{X} \pm SD$)

References:

Effect of acupuncture on cerebrovascular disease based on pericytes

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Abstract
In recent years, the research on cerebrovascular diseases has shifted from neuronal focus to microvascular system. As one of the components of microcirculatory vascular wall cells, pericytes and astrocytes and endothelial cells together constitute the blood-brain barrier (BBB), which plays an extremely important role in maintaining the stability of the brain tissue environment, covering the central nervous system. Pericytes are also one of the indispensable cells in cerebral angiogenesis. In addition to the function of participating in the formation of BBB and promoting angiogenesis, pericytes also have the functions of regulating blood flow perfusion, vascular wall permeability, maintaining microvascular tension, and multi-differentiation to promote repair and regeneration. Therefore, pericytes and brain vascular diseases (such as stroke, Alzheimer’s disease and other neurodegenerative diseases) are closely related. Traditional Chinese medicine thinks that cerebrovascular disease is mainly caused by blood collateral damage. Acupuncture treatment has definite curative effect and advantages in intervening cerebrovascular diseases. However, there are some problems in the study of cerebrovascular diseases, such as the imprecision of research techniques and insufficient depth of mechanism elaboration. This article searches for brain cells and Chinese medicine treatment brains in China National Knowledge Infrastructure (CNKI), Wanfang Data, Chongqing VIP, as well as PubMed, Cochrane Library and EMBase databases. The literature on vascular disease will review the biological characteristics of pericytes, the progress of pericytes and cerebrovascular diseases and acupuncture treatment, and provide an innovative reference for pericyte research and acupuncture treatment of cerebrovascular disease.

Key words: pericyte, cerebrovascular disease, neurodegenerative, disease, angiogenesis, acupuncture and moxibustion

1. Research status of cerebrovascular diseases
The cerebrovasculature is not simply a passive conduit, but rather a highly dynamic multicellular structure capable of integrating and responding to both systemic and neural cues. At the core of its proper functionality is the intimately connected and highly coordinated neurovascular unit (NVU) comprising endothelial cells, pericytes at the capillary level, vascular smooth muscle cells (VSMCs) at the arterial level, astrocytes, microglia and neurons. Proper communication and functional interdependence of these diverse, but equally important, cell types is essential for effective CNS homeostasis. Furthermore, miscommunication and malfunction of members of the NVU are
important in many neurologic diseases. The present review will focus on the rapidly evolving roles of CNS pericytes in health and disease[1].

2. Pericyte function and characteristics

In 1873, Charles Rouget discovered a new cell type with a distinct perivascular morphology that wraps itself around blood capillaries. Initially called Rouget cells and later renamed pericytes they were formally described as cells with a prominent nucleus and limited cytoplasm. Pericytes are attached to the long axis of capillaries, embracing endothelial cells (ECs). Just like vascular smooth muscle cells (VSMCs) pericytes are called mural cells because of their perivascular basal membrane embedded position[2]. The morphology, biology, and density of pericytes vary greatly between different sites of the systemic vasculature. The ratio of pericytes/ECs ranges from 1:100 in the human skeletal muscles, up to 1:3 and 1:1 as observed in the central nervous system and the retina, respectively. Pericyte density appears to relate to organ function and correlates with the stringency of endothelial barrier function and rate of endothelial turnover. Tissues with the slowest EC turnover coincide with larger pericyte coverage. Pericyte density also appears to relate to orthostatic blood pressure; e.g. larger pericyte coverage was observed in the lower body parts under disease.

3. Association between pericytes and cerebrovascular disease

Pericytes are uniquely positioned within the neurovascular unit to serve as vital integrators, coordinators and effectors of many neurovascular functions, including angiogenesis, blood-brain barrier (BBB) formation and maintenance, vascular stability and angioarchitecture, regulation of capillary blood flow and clearance of toxic cellular byproducts necessary for proper CNS homeostasis and neuronal function[3]. New studies have revealed that pericyte deficiency in the CNS leads to BBB breakdown and brain hypoperfusion resulting in secondary neurodegenerative changes.

4. Mechanism of acupuncture intervention on peripheral cells in the treatment of cerebrovascular diseases

Acupuncture can promote the regeneration of microvessels and the establishment of collateral circulation and improve cerebral blood flow in ischemic penumbra. Guan Yonglin[4] et al. used the suture method to make the right middle cerebral artery infarction model (MCAO). The study concluded that the electrical stimulation of the cerebellar nucleus (FNS) on the expression of vascular endothelial growth factor (VEGF) and endothelial cell proliferation after focal cerebral ischemia Promote capillary renewal. Li Lingxin[5] has shown that acupuncture at Neiguan can moderately dilate the diameter of the pial microcirculation vessels and increase the number of microvessels in the infarcted brain tissue to improve the microcirculation state. Acupuncture can improve the cerebral blood flow of cerebrovascular disease, thereby reducing the damage of brain nerve function and restoring its function. However, its impact on cerebral blood flow is achieved through multiple factors, multiple pathways, and multiple targets. With the advancement of science and technology, in the research, we continue to use advanced technology and multi-field cooperation to continuously improve the observation method, so that we can not only observe the effect of acupuncture from a macroscopic point of view, but also explore its mechanism from a microscopic perspective. Research lays the foundation.

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Carrying forward Chinese national learning and inheriting traditional chinese medicine

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Abstract
Chinese national learning which is called Guoxue or Guogu in Chinese, is the traditional academic culture of China. On the basis of Chinese national learning, Traditional Chinese medicine (TCM) inherits and carries forward the theoretical thoughts in clinical application. However, due to the influence of Western culture and the world pattern in the recent 100 years, the Chinese medicine culture is facing a crippling crisis. Many people are suspicious or even negative about Chinese medicine, causing the severe challenges in the development process of Chinese medicine. Therefore, when discuss the development of contemporary Chinese medicine, we can't ignore the Chinese national learning, but pay more attention to the education of Chinese culture. To inherit and carry forward Chinese culture, so that can learn, comprehend and develop Chinese medicine much better. Promoting the culture of Chinese medicine is not only a strategic choice to revitalize Chinese medicine and enhance the country's soft power, but also an important way to realize the great rejuvenation of the Chinese nation.

Keywords: Chinese national learning; education; culture; TCM

Chinese national learning is the traditional culture of the Chinese nation and the essence of the Chinese nation's development to this day. From the Chungqiu Period to the Qin and Han Dynasties, it is the heyday of the development of national learning. On the basis of Chinese studies, it has produced Chinese medicine. It has been continuously developed and matured in the development of history and became the most unique in the whole world. As the saying goes: "If national studies are fertile, Chinese medicine would be a famous wood." Chinese medicine is an inseparable and important part of Chinese traditional culture, and it is also the part that best reflects the characteristics of Chinese excellent traditional culture. As President Xi Jinping said in his speech: "Chinese medicine has a profound philosophical wisdom and the healthy regimen concept and practical experience of the Chinese nation for thousands of years. It is a gem of ancient Chinese science and the key to opening the treasure house of Chinese civilization." The Chinese medicine culture fully embodies the core values and original thinking methods of the excellent traditional culture of the Chinese nation. It contains the essence of natural science and humanities from ancient times to the present, and absorbs the wisdom essence of Confucianism, Taoism and even Buddhism culture. It is the only scientific and technological cultural form that has been passed down to the present day and is still playing an important role.

Chinese national learning is the source of Chinese medicine theory

The emergence and development of TCM theory is derived from national learning. The concept and thinking method of Chinese learning is essentially the concept and research method of TCM theory. In particular, the concepts and ways of thinking embodied in the philosophical works such as Yiijing, Laozi, Mozi, Zhuangzi, Xunzi and Han Feizi are more closely related to TCM. The core idea of Chinese medicine theory is "holistic concept and syndrome differentiation", emphasizing the harmonious unity between human and nature, and what we now call "natural" is the "natural" given by the Dao Dejing, which means that the Dao itself is absoluteness, the Dao is "natural", "natural" is the original attribute of the Dao, it does not need to follow the others the Dao
is like this, thatishowitworks. The fundamental method of Chinese medicine is the yin-yang and five elements, of which yin-yang are the program, and the five elements are the different sympathetic states of yin-yang in the different directions of the five sympathetic state. This confirms that as long as we are in line with the yin-yang of heaven and earth, we can contract to the law of nature, and the power of nature can be the fundamental source of our life. In *Yellow Emperor's Internal Classics* says that "The heart is the monarch of the organs, the great lord of the five Zang-organs and six viscera, and the gods appear. If we combine them, we can know that the mind and Tao are corresponding, they are the same body, and the heart and Dao are unitary." This also confirms that the use of Dao is the use of the heart, the use of the heart is the use of the Dao, and the use of the heart is the use of the spirit. It can be seen that the source of Chinese medicine theory is the thinking of thenationalstudies, and at the same time it is constantly improved in clinical application, which forms the complete Chinese medicine theory that we have learned today.

Confucianism in nationallearning is the core value of Chinese medicine

After thousands of years of experience, traditional Chinese medicine has formed mature theories and methods. The ultimate goal is to cure diseases and save people from suffering. For thousands of years, "Great doctors havebothconsummate skills and noble character " and "With both a benevolent mind and heart " have been greatly praised by Chinese medicine practitioners and have gotten the trust of the people. Throughout the many famous doctors, all of them are compassionate, and they are in the hearts of the people of the world. They use their own benevolence to dispel human suffering. Such benevolence is undoubtedly derived from the concept of benevolence and righteousness of Confucianism in the country, and wherethere is sucha heart, there is such a career, so there is such a technique. Without the deep and loving kindness, there will be no lasting motivation to learn andto research, then will not be able to climb to the peak of medicine. The accomplished physicians of the dynasties have not achieved the medical achievements without suffering the twists and the hardships. Obviously, this requires a strong spiritual motivation. The generation of the uninterrupted power is derived from philanthropism. Benevolence, the core concept of Confucian culture, is deeply rooted in the hearts of every Chinese medicine practitioner and is the endogenous source of Chinese medicine for a long time. In the current economy market with the material interests as the core values represented by the West, Chinese medicine practitioners should pay more attention to national studies, strengthen their ideas, and continue to carry forward the "With both a benevolent mind and heart " as core values. Therefore, national learning education should be the top priority of Chinese medicine education. The characteristics of the Chinese nation are embodied in the excellent civilization that she has created. The soul of the Chinese nation is the world view and values represented by the ancient philosophy system and Confucianism. Therefore, as a Chinese medicine practitioner, it is necessary to be self-respecting and self-respecting in the status quo of Western medicine as a social medical subject. It is fully recognized that the thought, theory and technology of Chinese medicine are brilliant medical pearls, and will inevitably play its role.

Strengthen confidence and develop Chinese medicine

Traditional Chinese medicine and national studies are inseparable wholes that stand or fall together. Chinese learning is the source of Chinese medicine theory, the core of thought, and the premise of methodology. We should re-create the cultural atmosphere of Chinese medicine based on the thought of Chinese culture, and form a community of Chinese outstanding traditional cultural rejuvenation with academic groups such as Confucianism and Daoism, and form a strategic alliance to jointly promote the great rejuvenation of Chinese culture. The cultural concept of Chinese medicine must be supported by the strong support of the culture of Chinese culture. If we lose the cultural atmosphere of Confucianism and Daoism as the main body in national studies, we will lose the cultural environment on which we depend for survival and development, so we are isolated. The status of Chinese medicine will inevitably encounter the legitimacy of identity and the legitimacy of understanding things in heterogeneous Western culture. What Chinese medicine practitioners want is not the ratio of Western medicine to the level of Western medicine, nor can they be influenced by the current society and Western culture and at all cost to prove that they are "scientific". We must
Mechanism of Salvia miltiorrhizaBge in the Intervention of Heart Failure Based on Network Pharmacology

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Abstract: Based on network pharmacology, explore the main components, targets of Salvia miltiorrhiza Bge intervention in heart failure and analyze its mechanism of action. According to the Chinese medicine system pharmacology technology platform (TCMSP), the components and targets of Salvia miltiorrhiza Bge were excavated. The conditions were as follows: drug bioavailability (OB)≥50%, drug-like (DL)≥0.18, half-life (HL)≥4. Using databases such as CTD, TTD, and Drugbank to collecting targets related to heart failure. Using Cytoscape 3.7.1 software and String database to construct the "component-target" network and protein interaction network of Salvia miltiorrhiza Bge. Analyze the target how to play key roles in the heart failure. 15 compounds were screened from Salvia miltiorrhiza Bge, and 13 core target of Salvia miltiorrhiza Bge intervention heart failure was obtained. Salvia miltiorrhiza Bge mainly treats heart failure by TNF, AR, PPARG, ESR1 and so on.

Keywords: Salvia miltiorrhiza Bge; network pharmacology; mechanism; Protein interaction

Heart failure is the ultimate destination of various serious heart diseases. Modern medicine often causes toxic side effects such as electrolyte imbalance, hypotension, which limits clinical application[1]. Traditional Chinese medicine has the characteristics of "multi-component-multi-target" and no side effects. So the method of using traditional Chinese medicine treatment has broad application prospects.

Salvia miltiorrhiza Bge is a kind of blood circulation regulating medicine. It has functions such as promoting blood circulation, relieving pain, and passing through. Studies have shown that it is also used to treat heart failure, and achieves good results.

Network pharmacology has unique advantages and great potential in predicting and identifying the components and targets information of Chinese medicine to clarify the mechanism of action[2].

Objective
Based on network pharmacology, explore the main components, targets of Salvia miltiorrhiza Bge intervention in heart failure and analyze its mechanism of action.

Materials and Methods
Collection of compounds and targets
Screening for compounds and targets using TCMSP, CTD, TTD, Drugbank and with oral bioavailability (OB) ≥50%, drug-like (DL) ≥ 0.18, half-life (HL) ≥ 4.

Results and discussion

Compounds and targets

15 compounds and 208 drug targets were obtained. 31,405 targets related to heart failure were searched. Compounds are digallate, 2-(4-hydroxy-3-methoxyphenyl)-5-(3-hydroxypropyl)-7-methoxy-3-benzofurancarboxaldehyde, formyltanshinone, Przewaquine B, przewaquine c, tanshinaldehyde, Danshenol B, Danshenol A, cryptotanshinone, daphnepiroketallactone, isocryptotanshi-none, neocryptotanshinone, prolithospermic acid.

The network is drawn as shown in Figure 1 and Figure 2. Figure 1 contains 77 nodes and 207 interactions. Figure 2 contains 56 nodes and 311 interactions. Degree and betweenness centrality of nodes are important parameters that quantify the importance of each node. It was found that the degree and betweenness centrality of 13 key targets were larger than the average value (the average value of the value was 11.10714, the betweenness centrality average was 0.021308322). They are TNF, AR, PPARG, ESR1, APP, STAT3, ESR1, PTGS2, EDN1, NR3C1, PPARG, CHRM1, ACHE, MAPK14, DRD2.

The following is examples of the specific mechanism of Danshen intervention in heart failure through core targets. In heart failure, the balance mechanism of TNF-α is broken, leading to a significant increase in TNF-α in the blood. Studies have shown that TNF-α can promote the synthesis of cardiomyocyte proteins, inhibit the contractility of cardiomyocytes, promote cell death and cardiac hypertrophy, and promote the progression of heart failure[3]. In recent years, studies have found that androgen is closely related to heart failure. Androgen regulates cardiovascular system mainly through atrium, ventricular muscle, aorta, etc. Studies have confirmed that heart tissue is widely present in AR[4]. PPARG is highly expressed in the myocardium. Recent studies have shown
that PPARG can protect the heart from ischemia-reperfusion injury, reduce myocardial infarct size, promote the recovery of cardiac function after ischemia-reperfusion, anti-inflammatory, partially reverse the left ventricular cardiomyocyte hypertrophy in rats after myocardial infarction. Interstitial fibrosis, improve cardiac contraction. The specific mechanism by which estrogen improves cardiac function may be that hormones inhibit the expression of angiotensin receptor mRNA, signal transduction, and remodeling of extracellular matrices induced by the renin-angiotensin-aldosterone (RAAS) system. Through the above methods, the proliferation of fibroblasts and the synthesis of collagen are inhibited. Treatment of in vitro cultured cardiac fibroblasts with estrogen significantly reduced angiotensin II-induced activation of p38MAPK/NF-kB signaling pathway and prevention of cardiac fibroblast differentiation. It can be seen that Salvia miltiorrhiza Bge can treat heart failure through the above core targets.

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Research Progress of Traditional Chinese Medicine Pattern Differentiation and Treatment in Alzheimer's Disease

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Abstract: China has the largest elderly population in the world, meanwhile, the problem of aging population is becoming more and more serious. The concept of healthy aging has attracted wide attention from all walks of life. The morbidity of Alzheimer Disease is very high among older people, the age of onset is gradually advancing, and the course of disease progresses rapidly. In recent years, reports about this kind of disease are extremely common, some medical scholars are always committed to research nosogenesis and treatment of Alzheimer Disease as well. As a part of medical means, Traditional Chinese Medicine also plays an important role. The basic pathogenesis of the disease is kidney essence insufficiency and cerebral dystrophy. This article will induce some recent pertinent literatures and then summarize research progress of Alzheimer Disease from kidney.

Keywords: Alzheimer Disease; Research Progress; Pattern Differentiation and Treatment
Alzheimer disease (AD) is an insidious, progressive neurodegenerative diseases. It is characterized by many expressions, such as, allomnesia, cognitive disorder, language barrier, executive dysfunction and personality and behavior changes[6]. As the same status as modern medicine, Traditional Chinese Medicine has a very clear treatment effect to AD.

**Objective**

Many researches show that treating diseases before it rises is also very important for preventing AD. All the time, researches which are based on kidney carried out extensively, and the effect of clinical application is obvious. This article reviews some recent documents to summary a few conclusions and experiences.

**Materials and methods**

Firstly, articles which were about how to diagnose and treat AD in recent years were collected. Then, these articles were arranged in accordance with a certain rule. Finally, the experiences and conclusions were discovered and summarized by these articles. The above articles were retrieved from the Internet CNKI, PubMed, etc.

**Results and discussion**

AD is a kind of mental illness whose main clinical manifestations is dementia. Senile plaque and neurofibrillary tangles are AD main pathological features[2]. Some studies have shown that[3], when lumbar puncture was given to people above 80-year-old without AD, the biomarkers level about AD in their cerebrospinal fluid, for example, Amyloid β-protein(AB) and Tau protein, had shown a lot of abnormality and directly related to mortality. Some scholars considered that[4], the evidence of dosage effect among neurotoxicity of Aβ, neuronal loss and the degree of dementia were still so absent currently that the relativity between the degree of decline in cognitive ability and Aβ content in brain could not be proved.

On the other hand, many clinical experiments which were directed against intervention and inhibition of Aβ production were failed like Verubecestat[5]. This is an oral Beta-secretase-1 (BACE-1) inhibitor and its function is to block up Aβ production. However, after 104 weeks’ clinical test, the study team discovered that Verubecestat couldn’t improve the clinical scores of AD patients, which meant that the medicine couldn’t prevent the progress of AD. The adverse events in medicine group were even more common than the placebo group.

At the time of treating AD, many TCM doctors follow the same basic rule which is called supplement kidney essence and boost brain marrow. They usually chose some Chinese medicines which can warm and supplement kidney yang like Epimedi Herba, Psoraleae Fructus, Morindae Officinalis Radix, Cistanches Herba, Eucommiae Cortex, and some Chinese medicines which can enrich and nourish kidney yin like Ligustri Lucidi Fructus, Lycii Fructus as well as Draconis Os, Polygalae Radix and Ziziphi Spinosae Semen to calm the mind. These Chinese medicine are the basic composition of prescription. Besides, the results of researches about normal acupuncture and electronic acupuncture shown us hope. “Bài Huí”(DU 20), “Shēn Shù”(BL 23) and other acupoints were commonly chosen to give a shot, and it could make different influences to pathological structure and protein expression of AD animal models’ brains. Meanwhile, the behavioral changes and cognitive memory abilities were ameliorated through this way.

**References**


A Summary of the Treatment of Alzheimer’s Disease by Ancient Prescriptions of Traditional Chinese Medicine

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Abstract. Objective
By collecting and screening the relevant literature on the treatment of Alzheimer’s disease by ancient prescriptions of traditional Chinese medicine, this paper analyzed and summarized the current situation of the treatment of Alzheimer’s disease by ancient prescriptions of traditional Chinese medicine, excepting to be helpful for the future clinical and experimental research.

Materials and methods
According to the textbooks, monographs and literatures on Alzheimer’s disease (dementia) and the treatment of Alzheimer’s disease (dementia) by ancient prescription of traditional Chinese medicine, the theoretical basis of Alzheimer’s disease is summarized. With the search term “traditional Chinese medicine treatment for Alzheimer’s disease” as the search term, relevant literature was searched in CNKI (China National Knowledge Infrastructure), Chongqing Weipu, Wanfang data, CBM (China Biomedical Literature System) and other databases. Through intensive reading and screening of the literature retrieved, the etiology and pathogenesis of Alzheimer’s disease, ancient prescription treatment and experimental research were summarized and analyzed.

Results and discussion
In summary, the clinical application of ancient prescriptions in the treatment of Alzheimer's disease has achieved satisfactory results, and the safety is high. Its ancient prescriptions can be divided into kidney-tonifying, tranquilizing, blood-activating, liver-soothing, detoxifying, qi-invigorating, and so on. Kidney-tonifying drugs such as Dihuang Yinzi, Zuogui Pill, Tianma Gouteng Yin, Anshen drugs such as Kaixinsan and Dadingxin Decoction, Blood-activating drugs such as Tidang Decoction, Buyang Huanwu Decoction, Xuefu Zhuyu Decoction, Liver-soothing drugs such as Xiaoyao San, Chaihu Shugan San, detoxifying drugs such as Huanglian Jiedu Decoction, Qi-tonifying drugs such as Dioscorea Pill, etc.

However, there are still some problems in the current clinical research, such as small sample size, different western medicines used in the control group, different diagnostic criteria, lack of a unified efficacy evaluation scale, and so on. Some ancient prescription studies are limited to laboratory studies and clinical trials are few.

It is hoped that this article will enable readers to understand the current situation of the ancient prescription in the treatment of Alzheimer's disease, and at the same time, it will be helpful for future clinical and laboratory research.

Key words: ancient prescriptions of TCM, Alzheimer’s disease, summary

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The Clinical Observation of Decoction of Dihuangyinzi and Sanxiantang on Male Menopause Syndrome with Kidney-yang Deficiency

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ABSTRACT: Male menopause syndrome refers to a man from years to old age period of transition, because the body gradually aging, endocrine function gradually subside and cause a series of balance in the body, make the function of the nervous system and mental activity stability decreased with plant nerve function disorder, spiritual, mental disorder and sexual function change a group as the main symptoms of the disorder. Decoctions of dihuangyinzi and sanxiantang are effective in treating this disease. This clinical observation summarized some classical discussions from TCM and modern western medicine, to use Decoctions of dihuangyinzi and sanxiantang in TCM theory in clinical practice, then contrasted therapeutic regimen to draw a conclusion.

Key words: Male Menopause Syndrome; Dihuangyinzi; Sanxiantang

Male menopause syndrome is also known as middle-aged and elderly male androgen deficiency syndrome, age-related testosterone deficiency syndrome, male delayed hypogonadism. This disease happens in the transition period of a male from middle age to old age, partial middle aged and old male whose gonadal function decreases apparently, cause a series of body maladjustment thereby, make nervous system function and mental activity stability abate and appear clinical and biochemical syndrome. Clinical symptoms such as fatigue and weakness, decreased sexual desire, heart palpitations, insomnia, irritability, sweating and even sexual dysfunction are the main problems. According to the survey, the prevalence of menopause syndrome in Chinese men increases with age, with 13% in the 40, 30 % in the 50 and 47% in the 70 age group[1]. According to the symptoms and signs, the disease is classified as deficiency of labor, depression syndrome and kidney deficiency. Testosterone replacement therapy is the main treatment in western medicine, but the adverse reactions are obvious, and there are induced breast development in men, fluid storage, increase the risk of benign or malignant prostate disease.[2-4] However, traditional Chinese medicine has unique advantages in the treatment of this disease, with fewer adverse reactions, and has a broad development prospect.

Objective
To explore the clinical effect and safety of the decoction of Dihuangyinzi and sanxiantang in male menopause syndrome with kidney essence deficiency.

Materials and methods
This clinical observation collected 38 patients who treated in outpatient service of First Hospital affiliated to Heilongjiang University of Chinese Medicine during 2017.08- 2018.09. The patients who identified as deficiency of kidney-yang male menopausesyndrome were randomly divided into 2 groups, each of group have 19 patients. The first group taking 11-acid testosterone 8 weeks and took 80mg orally twice a day after meals, after 2 weeks, the original dose was changed from 80mg to 40mg each time, and the original medicine frequency remained the same. The second group19 patients taking Dihuangyinzi and sanxiantang warm-taken decoction 8 weeks, each time 150ml, twice a day. Both before and after treatment, monitoring total testosterone and according to the Bosphorus of psychology department in Istanbul PADAM symptom self-assessment for 11-acid testosterone and Dihuangyinzi and Sanxiantang in the treatment of male menopause syndrome.
symptoms score. The results of evaluating tables and monitoring were analyzed by SPSS 21.0 statistical software.

**Results and discussion**

There was a difference in the level of total testosterone (P<0.01) before and after the treatment of 11-acid testosterone and the decoction of Dihuang yinzi and sanxiantang, but there was no significant difference between the two groups (P>0.05). According to the Istanbul symptom rating scale, its symptoms are improved than before treatment. There were significant differences between the two groups before and after the treatment of mental symptoms, physical and vasomotor symptoms, and sexual symptoms (P<0.01), but there was no significant difference between the two groups (P>0.05). There were significant differences between the two groups before and after the treatment of the monitoring indexes of TT and FT were both improved, and SHBG decreased (P<0.01), but there was no significant difference between the two groups (P>0.05). There was no significant difference in efficacy between the two groups after treatment (P>0.05).

There was no significant difference in total testosterone level, symptom improvement and efficacy between the decoction of Dihuang yinzi and sanxiantang and 11-acid testosterone in the treatment of male menopause syndrome. The decoction of Dihuang yinzi and sanxiantang is used to treat who with kidney essence deficiency male menopause syndrome, by warming invigorating the kidney-yang, filling with kidney essence and regulating the balance of the liver, spleen and kidney, and the dynamic balance of Yin and Yang. Thus, it was effective and no adverse reaction in treating male menopause syndrome by the decoction of Dihuang yinzi and sanxiantang.

**References**


**Study on effects of Qiweibaizhu powder and its prescriptions on spleen deficiency mice intestine**

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**Abstract**

**Objective**

To study the effects of Qiweibaizhu Powder (QWBZP) on the intestine of spleen deficiency mice by decomposing recipes.

**Materials and methods**

Spleen deficiency model mice were established by a combination of Rheum palmatum L. (Da Huang) administration and swimming. 100 kunming mice (half male and half female) were divided into 5 groups, including normal group, model group, Qiweibaizhu powder (QWBZP) group, Sijunzi decoction (SIZD) group and Puerariae Radix (Ge Gen), Herba Pogostemonis (Huo Xiang) and Saussurea lappa (Mu Xiang) mixed decoction (GHMD) group. In this study, the intestinal transit rate, Serum motilin (MTL), vasoactive intestinal peptide (VIP), prostaglandin E2 (PGE2) and
Results and discussion
Compared with normal group, the intestinal transit rate and MTL of model group significantly reduced (P<0.05, P<0.01). VIP and PGE2 levels significantly increased (P<0.05, P<0.01), and VIP level was significantly lower (P<0.05). The intestinal transit rate and MTL in SJZD group increased (P<0.01, P<0.05). VIP, PGE2 and SP levels significantly decreased (P<0.01) in contrast with model group. GHMD group MTL increased (P<0.05). VIP, PGE2 and SP levels significantly reduced (P<0.01). The intestinal pathological examination showed that drugs in all groups posed no obvious harm on spleen deficiency mice.
QWBZP can promote MTL secretion and inhibit VIP secretion to affect intestinal function of spleen deficiency model mice. SJZD can improve the intestinal motility of spleen deficiency model mice by increasing the intestinal transit rate and MTL level, regulating VIP and PGE2 in the small intestine. GHMD cannot be used as a prescription for spleen deficiency alone. QWBZP, composed of SJZD and GHMD, reflects the correlation between Qiweibaizhu powder and spleen deficiency syndrome.
Key words: Qiweibaizhu powder; Sijunzi decoction; Intestinal transit rate; Motilin

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Study on the prescription of Zhu Danxi in the treatment of diarrhea

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Abstract

Diarrhea can be some simple diarrhea diseases, such as exogenous diarrhea, five viscera diarrhea, seven feelings diarrhea and so on; It can also be a laxative symptom caused by other diseases, which has the same pathogenesis and syndrome as simple diarrhea, so the author thinks it is necessary to refer to diarrhea for syndrome differentiation and treatment. Therefore, this article will dysentery, malaria, cholera before or during the operation of loose stools, thirst appeared to flow out of the droppings carrying water, Diseases such as incomplete faeces that result in thin stool formation are included in the prescription study of diarrhea in this paper.

Key words: Diarrhoea, Study on prescription and medicine

Throughout the literature of the past dynasties, it can be found that in the pre-Qin and Han dynasties, most of them appeared in the naming form of diarrhea, but there was no title of "diarrhea". In the Sui and Tang dynasties, doctors had a deeper understanding of diarrhea, most of which were named after the different things they had dropped, indicating that doctors had realized that, compared with the distinction between the five organs of zang, diarrhea might be named after different diarrhea. It can better reflect the length of the course of disease with the internal change of the pathogenesis of the disease, and reflect the essence of diarrhea. During the Song, Jin and Yuan dynasties, due to the contending of a hundred schools of thought in medicine, the understanding of diarrhea was deeper, and under the prescription Theory of "three causes and one Syndrome", "catharsis" was set up.

In the monograph of diarrhea, this paper discusses the first place of diarrhea from three aspects: "deficiency and cold discharge", "cold and heat discharge" and "real heat discharge". These are with distinctive characteristics of the times, catharsis. The occurrence of different nomenclature of diarrhea marks the deepening of the understanding of the diarrhea of the traditional Chinese medicine. The side reflects the cause and pathogenesis of the diarrhea, and also provides a train of thought for the development of the medicine of the future, and provides the experience for the treatment of the clinical diarrhea. to make a difference

Objective

Zhu Danxi has a further understanding of diarrhea on the basis of his predecessor. He also identified diarrhea and dysentery, which doctors had failed to discuss in previous lives. In addition, for the first time, his innovative thought of "painful catharsis" and "spleen and kidney diarrhea" is also worthy of our study. Therefore, to learn Zhu Danxi's academic thought, when looking at its whole picture, good at summing up, in order to better inherit and carry forward.

Materials and methods

Zhu Danxi believes that the main causes of diarrhea are dampness, fire, qi deficiency, phlegm accumulation and food accumulation, which have been discussed in many of his works.

Results and discussion

Zhu Danxi medical ethics is noble, academic exquisite, rich in learning, first from the teacher's name Confucianism Xu Qian to study Neo-Confucianism, and then from Hejian's second transmission disciple Luo Zhiti, to get the true biography. He put forward the theory of "deficiency of yang and excess yin" and "theory of fire" to correct the disadvantages of Fang Zhi. He advocated syndrome differentiation and treatment, and took "qi, blood, phlegm and depression" as the program of clinical syndrome differentiation. At the same time, its emphasis on "nourishing yin and reducing fire" opened up a new way of clinical syndrome differentiation and treatment of traditional Chinese medicine, and later generations respected it as the founder of "nourishing yin school". Zhu Danxi was the latest of the four members of the Jin Yuan Dynasty. His friend Dai Jiuling commented to him in Danxi Weng Zhuan: "it is the three families (Liu, Liu. Li, Zhang) the theory, go away from its short and use its length. " The study of the origin of Zhu Danxi's academic thought is of great significance and enlightenment to our inheritance and innovation of medical academic thought today.

Zhu Danxi's main academic thought is to establish the theory of "yang often has more than, yin often deficiency" and "dampness-heat phase fire" as the disease, and his treatment of miscellaneous
Diseases is also quite experienced, so there is the theory of "miscellaneous diseases Zhu Danxi" and "miscellaneous disease rules Zhu Yanxiu".

Thus Zhu Danxi's treatment of miscellaneous diseases mainly starts from four aspects: qi, blood, phlegm and depression, and the academic viewpoint of Zhu Danxi is well reflected in Danxi Xinfa.

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Discussion on the etiology and pathogenesis of diabetic nephropathy in traditional Chinese medicine

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Abstract
Diabetic nephropathy (DN) is one of the common clinical complications of diabetes mellitus, and its treatment and prognosis are unsatisfactory. Traditional Chinese medicine has unique viewpoints and advantages in recognizing and treating DN. This article discusses the etiology and pathogenesis of diabetic nephropathy from the angle of adjusting Yin and Yang in traditional Chinese medicine.

Key words:  diabetic nephropathy; diabetes mellitus; Chinese medicine

Diabetic nephropathy (DN) is one of the complications of diabetic systemic microangiopathy. The incidence of DN in diabetic patients ranges from 20% to 40%. The clinical symptoms of DN include edema, proteinuria, oliguria, anuria and polyuria. In recent years, there are different opinions on the pathogenesis and treatment of diabetic nephropathy based on syndrome differentiation. Traditional Chinese medicine has certain advantages in the treatment of diabetic nephropathy: less toxic and side effects, suitable for long-term application; it can act on multiple links, which conforms to the complex and changeable pathological characteristics of diabetic nephropathy, and embodies the basic principles of syndrome differentiation and treatment of traditional Chinese medicine.

Doctors of past dynasties believed that the pathogenesis of diabetic nephropathy was deficiency of both qi and yin, deficiency of both yin and yang, and deficiency of both Yang and Yin and yang. The pathogenesis of diabetic nephropathy was cold coagulation, blood stasis and phlegm turbidity, with kidney, spleen and liver as the main pathological factors. Modern and contemporary physicians mostly use the method of deficiency differentiation as the main syndrome, and the method of nourishing qi, nourishing yin and nourishing yang as the dialectical treatment. At the same time, eliminating the pathogenic factors and achieving good curative effect. Therefore, the adjustment of Yin-Yang thought in traditional Chinese medicine may be a breakthrough in the treatment of this disease.

1.Explaining the Evolution of Pathogenesis from the Angle of Yin and Yang
1.1 Etiology and pathogenesis: The etiology of DN is different in ancient records. In Lingshu Five Changes\textsuperscript{[1]}, it is stated that the weakness of the five viscera is an important cause of diabetes, especially the spleen and kidney. "Shengji General Record" pointed out that diet can also form diabetes, in addition to atrioventricular disharmony, excessive labor, depletion of yin and essence, also prone to thirst. In addition to many factors that predispose diabetic nephropathy to diabetes mellitus, physicians of past dynasties believed that the etiology of diabetic nephropathy was highly related to emotional disorders, congenital endowment deficiency, excessive work and leisure, and chronic illness. Pursue its root, the kidney easily congenital endowment is insufficient, acquired easily Yin and Yang mutually damaged, so kidney deficiency is the key to the occurrence and development of this disease.

1.2 Liver and kidney Yin deficiency, Qi and Yin deficiency: the first episode of diabetes is Yin deficiency, dryness and heat as the standard, Yin and Jin get worse and worse, dryness and heat get more prosperous, burning and burning Jin, each other is cause and effect \textsuperscript{[2]}. Over time, the deficiency of Jin and Yin is mainly caused by deficiency of liver and kidney Yin. The symptoms include drinking one and two, soreness of waist and knee, dizziness, astringency and dry mouth, constipation and other symptoms.

1.3 Yin loss and yang, spleen and kidney yang deficiency: Yin and yang are closely related. They are mutually endowed and interdependent. One side of deficiency can lead to the other side's imbalance. When thirst disappears for a long time, spleen and kidney are damaged. Yin depletes Qi and yang, which results in spleen and kidney yang deficiency. Kidney loses its main role of water, bladder gasification is unfavorable, and urination is unfavorable; water retention, which overflows the skin and presents edema \textsuperscript{[3]}. The appearance of water retention is often the main sign of the aggravation of DN. Symptoms include mental fatigue, soreness of waist and knee, decrease of urine volume, edema of lower limbs and constipation knot.

1.4 Deficiency of both yin and yang: kidney essence failure, deficiency of temper, difficulty in metaplasia of the source of Qi and blood, loss of nourishment of viscera, therefore, we can see the deficiency of both yin and yang, such as limb fatigue, weakness of the whole body, yellow complexion, pale tongue coating, weak pulse, etc. At this time, it is Yin Damage and Yang, Yin and Yang deficiency, water and dampness and toxic evil flooding, the emergence of unfavorable urination, color mix such as plaster, limb edema, dark complexion, or even confusion and other symptoms.

Generally speaking, the main pathogenesis of DN is diabetes for a long time, lingering, deficiency of both Qi and Yin, deficiency of Yin and Yang, eventually becoming both Yin and Yang deficiency. The evolution of this series of pathogenesis explains the long-term evolution of diabetic nephropathy from light to heavy and from shallow to deep.

2. **There are still some shortcomings.**

At present, some progress has been made in the research of DN prevention and treatment with traditional Chinese medicine, but there are still some problems and deficiencies. For example, clinical research lacks unified criteria for diagnosis, evaluation of curative effect and differentiation of symptoms and signs of traditional Chinese medicine, which leads to the lack of comparability of research data. In addition, traditional Chinese medicine lacks large-scale clinical and experimental studies of diabetic nephropathy, and lacks a unified understanding of the treatment of diabetic nephropathy from the perspective of regulating yin and yang. Many scholars have obtained certain curative effect according to their own viewpoints, but the current treatment still focuses on the syndrome of phlegm, turbidity and blood stasis, which is the standard syndrome. The research status of this deficiency syndrome, especially Yin deficiency with Yang deficiency, in diabetic nephropathy is insufficient. There are more or less cases of using traditional Chinese medicine guided by western medicine in the treatment.

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Research Progress in Regulating Autophagy of Cells by Tonifying Kidney Herbs in Treating Aging-related Diseases

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Abstract

Aging is a necessary stage for every living body from birth to death. During this process, the human body may suffer from aging-related diseases, such as tumors, cardiovascular diseases, etc. Autophagy is one of the hottest research fields in life science after apoptosis, and cell autophagy plays an important role in the aging process. From the perspective of cell autophagy, this article discusses the research strategy of kidney-tonifying traditional chinese medicine in the treatment of aging-related diseases-tumor and cardiovascular diseases.

Key words: Aging, Autophagy, Kidney, Traditional chinese medicine, Research progress

Autophagy is a process in which cells, organelles, denatured proteins, nucleic acids and other biological macromolecules damaged, denatured, aged and disabled by themselves are encapsulated into vesicles by using a double-layer membrane, and the vesicles are fused with lysosomes to form autophagy lysosomes and degrade the contents encapsulated by the lysosomes, so as to realize cell homeostasis and update of organelles[1]; senescence is the general term for irreversible decline of biological physiological functions, morphological changes of organs, and functional failure. Almost all senescent tissues are accompanied by morphological and enzymatic changes of lysosomal system. Autophagy in cells will gradually weaken with the increase of age, thus leading to the reduction of the ability of cells to adapt to the external environment and their own defense response. At the same time, if damaged cell structures and a large number of reactive oxygen compounds such as oxygen free radicals cannot be effectively removed, then the steady state of cells will change, thus accelerating cell aging. Therefore, maintaining normal autophagy is related to aging. Modern studies have shown that some traditional chinese medicines and compound prescriptions with kidney tonifying effect participate in the regulation of autophagy and have the effect of treating aging-related diseases. Some scholars believe that cell autophagy may be the microscopic basis of yin-yang balance, and the cell autophagy process is the microscopic embodiment of yin-yang dynamic balance[2]. While the kidney contains true yin and true yang, the kidney is a dirty body of yin and yang, fire and water, and the kidney essence is exuberant, the true yin and true yang are coordinated, the spirit is vigorous and the body is healthy. If kidney essence is insufficient and yin impairs yang depletion, then god declines and life expectancy decreases. Yu Tianming's "Medical Heart Biography" points out that when kidney qi is abundant, life will be prolonged, and when kidney qi is weak, life will die. This shows that kidney essence qi is the key factor that determines the strength and life span of the human body. Therefore, autophagy is beneficial to the body when yin and yang are secret, and autophagy apoptosis occurs when yin and yang are out of balance. This article discusses the anti-aging effect of kidney-tonifying herbs by regulating cell autophagy, which provides a new idea for the treatment of aging-related diseases by kidney-tonifying herbs.

1 Anti-tumor strategy of kidney-tonifying based on cell autophagy

Ming[3] studied the effect and mechanism of inhibiting proliferation of human tongue squamous cell carcinoma CAL-27 cells in vitro with lycium barbarum polysaccharide of different concentrations. The results showed that lycium barbarum polysaccharide can regulate the transformation of LC3-□ protein to LC3-□ protein and induce autophagy of cells; change the cell
growth cycle, block in G2 phase, and induce cell apoptosis in a dose-response relationship. Therefore, LBP can inhibit the proliferation of human tongue squamous carcinoma CAL-27 cells, and its mechanism may be related to inducing apoptosis and autophagy. Zhang [4] cultured HepG2 hepatoma cell line in vitro, and found that Lycium barbarum polysaccharide inhibited the proliferation of HepG2 cells and induced autophagy and apoptosis of cells. LBP-induced autophagy has protective effect on apoptosis of hepatoma cells.

2 Strategies for prevention and treatment of cardiovascular diseases with kidney-tonifying based on cell autophagy

Based on the basic understanding that atherosclerosis is an autoimmune disease related to aging, it is believed that kidney deficiency-induced immune dysfunction and autophagy hypofunction are one of the pathogenesis of AS, and kidney-tonifying traditional Chinese medicine may realize effective intervention on AS by regulating the autophagy deficiency of cells and enhancing the balance state of the body's immune function[5]. Based on the latest development of cell autophagy in atherosclerosis research, combined with biomarkers such as ATG5, LC3-II, p62, which are closely related to autophagy in the process of atherosclerosis formation, as well as key targets of related pathways, in order to deeply evaluate the mechanism of effective intervention and treatment of as by kidney-tonifying traditional Chinese medicine compound through autophagy. Based on this understanding, Xie[6] established an atherosclerotic rabbit model by simple high-fat diet feeding method to observe the effect of Bushen Kangshuai tablet on atherosclerosis and macrophage autophagy and explore its molecular mechanism. The results showed that Bushen Kangshuai tablet increased the expression level of LC3-II, and decreased the expressions of p62, PI3K, p-Akt and p-mTOR. Therefore, Bushen Kangshuai tablet can reduce the severity of atherosclerosis and up-regulate autophagy level. Its mechanism may promote macrophage autophagy by inhibiting PI3K/Akt/mTOR signaling pathway.

Conclusion

Kidney-tonifying in traditional Chinese medicine can control autophagy of cells, improve autophagy defects related to aging diseases, maintaining protein stability and update organelles as much as possible, so as to prevent and treat aging-related diseases such as tumors, cardiovascular and cerebrovascular diseases[7]. Using traditional Chinese medicine to regulate cell autophagy to treat certain senile diseases will certainly become the focus of future medical research. However, the current research on the regulation of cell autophagy on aging in traditional Chinese medicine is still in its infancy, and its specific mechanism is still unclear. How to organically combine the micro-mechanism research with the traditional Chinese medicine theory needs further research[8].

Reference

Acute isolation of cardiomyocytes from SD rats

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Abstract:
Objective: Obtained normal single cardiomyocytes are an basis model system for myocardial electrophysiological research. Methods: The heart of Sprague-Dawley (SD) adult male rats were intraperitoneally injected with heparin for 20 min. after successful pentobarbital anesthesia and mounted on a Langendorff apparatus. Firstly, the via the aorta was perfused for 3 - 5 min with oxygenated Ca$^{2+}$-Tyrode solution. Then switched to Ca$^{2+}$-free Tyrode solution for about 5 - 10 min. Finally perfused with collagenase dissolved in nominally Ca$^{2+}$- free Tyrode's solution for 15 - 25 min, the isolated cells were performed gradient calcium reintroduction and allowed to natural sedimentation. The cell stored in a Kraftbruche (KB). Conclusion: The method is simple and reproducible, and the isolated cardiomyocytes can lay the foundation for the electrophysiology of cardiomyocytes and provide convenience for further study on patch clamp technique. Key words: Cardiomyocytes; Cardiomyocyte electrophysiology; Emergent separation

Objective
At present, the electrophysiology of cardiomyocytes is developing rapidly, especially the development of patch clamp technology. There is also a high requirement for obtaining individual cardiomyocytes for experimental research. In 1976, Neher and Sakmann of the Mapu Institute of Biophysical Chemistry, Germany, collected ACh activated single channel ion currents for the first time, resulting in patch clamp techniques. Thus, the upsurge of cell single channel research was opened up\(^1\). Longxicillin et al., Beijing Medical University\(^2\) first reported the method of isolating cardiomyocytes from adult rats in 1991. Since 1969, Kono\(^3\) first reported the method applied to the isolation of cardiomyocytes by enzyme hydrolysis. The biggest problem with the separation of ventricular myocytes by enzyme hydrolysate is that isolated cardiomyocytes often occur. " Calcium abnormal phenomenon, microscopic observation will occur a large number of shrinkage and death. By controlling and regulating many experimental factors, a simple, rapid, effective and repetitive method for the separation of ventricular myocytes by Langendorff perfusion enzyme hydrolysis was explored in this experiment. To better serve the electrophysiology of cardiomyocytes.

Materials and methods
1 Materials
Male SD rats, weighing 200g ±20g, were provided by Experimental Animal Center of Heilongjiang University of traditional Chinese Medicine. Table 1 Cell Separation solution

2 Method
- Male SD rats were injected intraperitoneally with heparin sodium 500 IU/Kg and 0.6% pentobarbital sodium anesthetic after 20 min; The heart was fully exposed after thoracotomy, and 1-2 cm of the aortic was left behind after thoracotomy, and the heart was quickly cut off and placed in a petri dish with 25 mL 37.5% KB solution. Gently squeeze the heart with your hands with the beating of the heart; The heart was suspended retrograde from the aortic to the perfusion device, and the heart was perfused with calcium table solution for 3-5 min, until the outflow of the heart was colorless. Keep the drop speed at 1 drop / s; The heart stopped beating at 5-10 min, after perfusion with calcium-free desktop solution; Enzyme hydrolysate (50 ml) perfusion and calcium
complex: 15-25 min. 5 min was perfused with 37.5 μ L calcium solution, 10 min with 50 μ l calcium solution and 15 min with 40 μ l calcium solution. To observe the state of the heart, the heart gradually expanded, softened, yellowish, the outflow fluid thickened, and the heart was removed; The apical part of the heart was cut off and placed in 20 ml 37.5 KB solution. The heart was shredded and operated in 37.5 constant temperature water bath. The Babbitt tube blows evenly at 5 min, and the bubble can not be blown out; Add 40 μ L calcium complex solution and continue blowing 5 min in Babbitt tube; After filtration with 100 um microporous nylon mesh, it was precipitated at 50 ml; After half an hour, the culture medium was absorbed, added with 37.5 KB solution, and continued to precipitate; A large number of cardiomyocytes can be obtained by continuous precipitation.

Table I Cell isolation solution

| Separating medium | NaCl 134, HSPES 10, Glucose 10,NaH₂PO₄, MgSO₄ 1.2, KCI 4, PH 7.34 with NaOH. |
| Calcium free table solution | Calcium free table solution+ CaCl₂ 1.8mmol/L active current distribution |
| Calcium table solution | KCl 30, KH₂PO₄ 30, Taurine 20, L-Glutamic acid 50, MgSO₄ 3, EGTA0.5, HSPES 10, Glucose 10, KOH 80, PH 7.4 with KOH |
| KB liquid | Calcium free table solution50 ml + 25 mg Collagenase II (Sigma C6885) +25 mg BSA + 12.5 μl Compound calcium solution;active current distribution |
| Enzyme hydrolysate | Calcium free table solution50 ml + 25 mg Collagenase II (Sigma C6885) +25 mg BSA + 12.5 μl Compound calcium solution;active current distribution |

Results and discussion

A large number of cardiomyocytes can be obtained by taking the seven steps of the above 2.2 solution under the microscope; A large amount of fine particles are deposited at the bottom of the centrifuge tube at the bottom of the centrifuge tube, which is carried out under the above-mentioned method under 2.2, and a large amount of cardiac muscle cells can be obtained by placing the solution under the microscope. As shown in figure 1. If the cells that are observed under the mirror are sufficiently large,50 ml of the standing centrifuge tube is further discarded and the supernatant is precipitated, and a few bottles are dispensed; Some bottles of centrifugal tube with 50 ml precipitation in 9 steps under the above 2. 2 items were taken and stored in 4 °C refrigerator with sufficient amount of KB solution. Cells can live for up to 4 days. Within 4 days, the KB solution can be replaced every day, and the absorbed solution can be placed under the microscope to observe the gradual rough texture of the cardiomyocytes. Do not touch the heart directly with iron before the operation begins. Do not insert the needle into the heart too deep, enter the aortic, the surgical line to ensure the speed of dripping. Before the heart is perfused, the laboratory personnel are required to be proficient in operation, which is very critical. If the hanging time is too long, the apical part of the heart will become purple; The enzymatic liquid can be tested under microscope to infer which part of the early stage is problematic. Sometimes, consider the experimental environment to minimize personnel access. The liquid distribution process should be very strict, adjust PH, and then measure osmotic pressure. In this experiment, the requirement for mice was also very high, the extraction effect of female mice was not good, and the male mice could not be fed for more than one month.

Reference:

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Current situation and research progress of yiqi and jianpi therapy for type 2 diabetes mellitus

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Abstract
As a group of metabolic diseases characterized by hyperglycemia in clinical practice, type 2 diabetes has a high incidence in China in recent years, threatening human health and causing economic burden to society and families. Investigation shows that the number of type 2 diabetes patients in China is increasing year by year, which has aroused great attention from the medical community. The treatment of type 2 diabetes in western medicine mainly emphasizes blood glucose control. However, long-term use of hypoglycemic drugs will not only cause a variety of complications, but also lead to disorders of body fat and protein, and produce certain toxic and side effects on the body. According to the law of development of "diabetes elimination" in TCM, it was found that the main pathogenesis of the disease was weak temper, which was mainly used to improve qi and spleen. The study found that the traditional Chinese medicine prescription with the effect of promoting qi and strengthening spleen has the effect of lowering blood glucose, which can effectively delay the progression of diabetes and reduce the incidence of complications. Therefore, it has important practical significance and application value to the current situation and progress of the treatment of type 2 diabetes mellitus (temperature-deficient type) with the method of invigorating qi and strengthening spleen.

Key words: invigorating qi and strengthening spleen, Type 2 diabetes, Spleen deficiency

Type 2 diabetes is a common clinical chronic metabolic disease, which is caused by complex factors, such as environmental factors, genetic factors, insulin resistance and arteriosclerosis. Traditional Chinese medicine believes that diabetes is a traditional Chinese medicine "thirst quenching", and its treatment is beneficial to qi and spleen. This paper will make an in-depth analysis of the etiology and mechanism of type 2 diabetes and discuss the current situation and research progress of the treatment of type 2 diabetes with the method of invigorating qi and strengthening spleen. The review is as follows:

1. Etiological mechanism of type 2 diabetes mellitus (temper deficient type)
Type 2 diabetes patients do not heal over a long period of time, the lack of temper is mostly manifested as weakness of limbs, bland and boring mouth, spirit, etc., the main pathogenesis is deficiency of temper. Professor su believes that when spleen deficiency and transport failure occur, the transfer responsibility is difficult to achieve, and the blood glucose cannot reach the zang-fu organs and limbs, and the nutrition distribution is not balanced, which will lead to the increase of blood glucose. Du believes that the important internal cause of type 2 diabetes is insufficient endowment, while the external cause is poor diet. With the improving of the people material life level, people's diet and lifestyle changes, over a long period of time, excessive consumption of high-calorie food, which leads to obesity, outdated form GanHou fat greasy, and loss of temper, and even cause spleen health delivery, difficult to nourish intestines and temperament, and fasting hyperglycemia, postprandial hyperglycemia occurs, develop diabetes. So spleen deficiency is the pathological basis in the course of diabetes.

2. Current situation and research progress of yiqi and jianpi therapy for type 2 diabetes mellitus
In the study, professor hu randomly divided 60 patients with type 2 diabetes into the treatment group and the control group. The control group was based on diet control and routine hypoglycemic
drug treatment, while the treatment group was given the treatment of invigorating the spleen and invigorating the qi qi and qi qi and qi qi and qi qi and qi qi and shi qi on the basis of the control group. Treatment found after two months of treatment in patients with clinical symptoms was significantly reduced (P < 0.05), and the blood sugar, glycosylated hemoglobin, fasting insulin and GLP-1 levels significantly better than that of control group (P < 0.05), which showed that the method of spleen and replenishing qi treatment not only can improve the clinical symptoms of the patients, but also can effectively reduce the blood sugar, to the patient's level of GLP-1 play a regulatory role, the effect is remarkable. Type 2 diabetes is largely caused by the dysfunction of the spleen and stomach. The weak temper may lead to the deficiency of qingyang, dampness and middle jiao, and the five internal organs may be involved. Therefore, the spleen and qi should be strengthened in the treatment. The ginseng in the prescription can strengthen the spleen and invigorate qi, the yam can strengthen the stomach and invigorate qi, and the atractylodes rhizome can effectively clear heat and dampness, nourish the internal organs and the limbs, and eliminate the symptoms. The curative effect is particularly significant.

3. Conclusion

The study found that the prescription of invigorating qi and strengthening spleen had good curative effect in the treatment of this disease. Through clinical summary, it was found that the main pathogenesis of chronic non-healing of xiaoqi disease was spleen deficiency, the spleen was mainly transported, the spleen deficiency resulted in the cessation of diet, phlegm drinking and internal growth, and heat dissipation for a long time. Therefore, dry heat was the standard, and phlegm, dampness and blood stasis were pathological factors. In clinical practice, dialectical treatment is performed with the methods of invigorating qi and invigorating spleen, dampness and eliminating phlegm, producing saliva and quenching thirst, and activating blood to clear collaterals.

Pretreatment of Gentianella acuta Efficiently Prevents LipopolysaccharideInduced Acute kidney injury

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Abstract

The present study aimed to investigate the role of Gentianella acuta in mice with endotoxin-induced Acute kidney injury (AKI). BALB/C mice were injected with lipopolysaccharide (LPS, 10mg/kg) to establish a model of AKI. Before LPS injection, Mice were pretreated by Gentianella acuta (5KgN10P·R·R1, i.p.) with ig administration for continuous 7 days. The mice were sacrificed at 12h and the blood and renal tissue samples were collected. The value of serum creatinine (Scr) and blood urea nitrogen (BUN) were measured to determine renal function. An ELISA was used to determined the concentrations of renal cytokines, including TNF-α, IL-6 and IL-1β. As the results showed, in LPStreated AKI model, Gentianella acuta could significantly reduce LPSinduced inflammatory factors TNF-α, IL-6 and IL-1β. Besides, the increase of creatinine and BUN caused by LPS was significantly suppressed by Gentianella acuta. The results demonstrated that Gentianella acuta had protective effect on renal inflammation.

Key words: Gentianella acuta; LPS; TNF-α; IL-6; IL-1β; Acute kidney injury

Gentianella acuta is an anti-inflammatory herb widely used in traditional Chinese medicine. In this study, its mechanism involving anti-inflammation was try to unraveled.

Sepsis, a clinical syndrome caused by injury or infection, is characterized by the wholebody inflammatory response. AKI, a devastating condition of sepsis, is a worldwide heath problem and there is no effective drug available for its treatment. AKI is one of the most common complications in patients with severe sepsis. LPS has been identified as one of the most important factors that
leads to AKI. LPS could upregulate the production of pro-inflammatory cytokines TNF-α, IL-6, and IL-1β, which lead to the development of AKI.

**Objective**

To investigate the protective effect of Gentianella Acuta on kidney injuries and the possible mechanisms in mice with kidney injury induced by lipopolysaccharide.

**Materials and methods**

For AKI model, mice were randomly divided into six groups: control group, Gentianella acuta (5and10g·kg-1, i.p.), LPS group (10mg·kg-1, i.p.) and positive control dexamethasone (5mg·kg-1, i.v.). Before LPS injection, Mice were pretreated by Gentianella acutawith ig administration for continuous 7 days. After 12h, serum samples were collected and the cytokines(TNF-α, IL-6, and IL-1β) were examined ELISA kits following manufacturer’s instructions. The levels of BUN and Scra in serum were determined by Roche Module P800. Furthermore, the kidney tissues were harvested and were fixed in 10% fromaldehyde. After dehydrated in different concentrations of alcohol, tissues were embedded in paraffin and were sliced. H&E stain was performed and sections were observed under a light microscope.

**Results and discussion**

LPS-induced AKI model, Gentianella acuta could significantly reduce LPS-induced inflammatory factors TNF-α, IL-6 and IL-1β. Besides, the increase of creatinine and BUN caused by LPS was significantly suppressed by Gentianella acuta. The H&E staining of renal tissues exhibited normal kidney tubules in the control group. In LPS insulted group, the edema of renal tubular epithelial cells and glomerular atrophy, the dilation of renal capsule cavity, destruction of tubular structures, the epithelial cells of local focal necrosis collapse, and renal interstitial edema of epithelial cells were observed. Gentianella acuta pretreatment significantly attenuated LPS-induced epithelial atrophy and necrosis and interstitial edemas. DEX was used as positive control.

To examine the effect of Gentianella acuta in systemic inflammatory response, the protective effect of Gentianella acuta on LPS-induced sepsis model is evaluated in our laboratory and Gentianella acuta can significantly rescue mice whose effect was better than the one of DEX. Pretreatment with Gentianella acuta could alleviate the release of cytokines such as IL-1β, IL-6 and TNF-α in serum in a dose-dependent manner and improve survival rate. Besides, the septic AKI caused by aberrant inflammatory response has often than not lead to death. In our study, pretreatment with Gentianella acuta could attenuate LPS-induced BUN and serum creatinine. H&E staining indicated that Gentianella acuta could ameliorate AKI induced by LPS in a dose-dependent manner.

In summary, our data indicate that Gentianella acuta displays anti-inflammatory effects both in vivo. Gentianella acuta is a potent lead compound for the development of new agent for AKI.

**Study on the protective effect of Gehua Jiecheng Decoctionon mice with acute alcoholism**

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**Abstract:**

Acute alcoholism, referred to as "drunkenness" in traditional Chinese medicine, refers to excessive drinking or alcoholic drinks in a short period of time that lead to acute viscera function damage and neurological symptoms of excitement or inhibition, or even death. Gehua jiecheng decoction is a famous prescription and effective prescription specially used in traditional Chinese medicine to cure alcoholism. In recent years, gehua jiecheng decoction and its addition and
reduction group were widely recognized for the treatment of acute alcoholism and alcoholic liver
disease.

This paper discussed the effect of gehua jiecheng decoction recipe and its disrecipe group on
relevant indexes of mice with acute alcoholism, and divided them into groups for drug
administration,and the effect of withdrawn drug group on the efficacy of original prescription.

**Keywords:** Gehua Jiecheng decoction ; decomposition study ; antitemulence effect; mouse

**Objective**

To investigate the relieving alcoholism and anti-temulence of Gehua Jiecheng decoction and its
decomposed group on acute alcoholism mice model.

**Material**

Experimental animal: male Kunming mice, weighing (20 ± 2) g, were provided by Harbin
Yuying Farm, a total of 80.

Medicinal materials and reagents : 95% ethanol, supplied by Harbin Jiufeng Biotech Co., Ltd.,
diluted to 56% with distilled water when used; The Traditional Chinese Medicine decoction pieces
required for this experiment were purchased from the Pharmaceutical administration of the first
affiliated hospital of heilongjiang university of traditional Chinese medicine, and the quality was in
compliance with the requirements of the Pharmacopoeia. Weighing 15g of pueraria flower, 15g of
white carom, 6g of atractyloides, 6g of dried ginger, 4.5g of poria cocos, 4.5g of grifola, 6g of alisma ,
6g of medicated leaven, 15g of arenaceous kernel, 4.5g of ginseng, 3g of costustoot, 3g of green
tangerine peel, 4.5g of tangerine peel, as the Gehua Jiecheng decoction all group 1 agent
dosage. The Gehua Jiecheng Decoction group will be removed from white carom, costustoot, green
tangerine peel, tangerine peel, arenaceous kernel as the reduced liqi medicine group. The whole
group will be removed from poria cocos, grifola, alisma as the reduced liqi medicine group. The whole
group will be removed from poria cocos, ginseng, atractyloides as the reduced jianpi medicine
group. The whole group will be removed from dried ginger as the reduced wenzhong medicine
group. After breaking the above groups of drugs, soak them with 10 times of water for 1 hour, use
heat reflux extraction for 1 hour, then filter out the drug juice, add 7 times of water into the filter
residue and fry for 30 minutes. The medicine juice collected twice was combined, and then filtered
by filter paper for two times, and then concentrated to 1g/ml (raw medicine content) by rotary
evaporator. The concentrated medicine juice was placed in a refrigerator at 4°C for later use.

**Methods**

Mice were randomly divided into the blank group, the drunken model group, the
Gehua Jiecheng Decoction group, the reduced liqi medicine group, the reduced Lishui medicine
Group, the reduced jianpi medicine group, the reduced wenzhong medicine group, and the reduced
gehua group. The blank group was gavaged with normal saline. The drug group mice were gavaged
with the Gehua Jiecheng decoction 0.24ml/20g, the reduced liqi medicine 0.14ml/20g, the reduced
Lishui medicine 0.2ml/20g, the reduced Jianpi medicine 0.18ml/20g, the reduced wenzhong
medicine 0.23ml/20g, and the reduced gehua 0.2ml/20g. The drunken model group mice were
gavaged with normal saline 0.2ml/20g. After 30 minutes, the model group and the mice in the
administration group were given 56% ethanol 0.2 ml/20 g for gavage. In the acute alcoholism mice,
the time of righting reflex, the number of independent activities, the number of balance errors, the
time to escape the latency period, the number of times across the target quadrant, and the
concentration of ethanol in the blood were used as indicators of relieving alcoholism and anti-
temulence.

**Results:**

Compared with the model group, the drunk incubation period of the whole group and the
reduced wenzhong medicine group was significantly prolonged, and the soberness time of the
whole group was significantly shortened. Compared with the blank group, the number of
independent activities of the model group is significantly higher; Compared with the model group,
the number of independent activities in the whole group and the reduced wenzhong medicine group
was significantly decreased. The number of independent activities of the reduced liqi medicine group, the reduced lishui group, the reduced jianpi group and the reduced Gehua group was not significantly decreased; Compared with the blank group, the number of balance errors of the model group is significantly higher; Compared with the model group, the number of balance errors in the whole group, the reduced jianpi group, and the reduced wenzhong group was significantly lower; Compared with the blank group, the time to escape latency of the model group is significantly longer; Compared with the model group, the escape latency of the whole group, the reduced lishui group, and the reduced wenzhong group was significantly decreased; Compared with the blank group, the number of crossings of the model group is significantly decreased. Compared with the model group, the number of crossings of the whole group is significantly increased; Compared with the model group, the ethanol concentration of the whole group decreased significantly, and the other groups did not change significantly.

**Conclusion**

Gehua Jiecheng Decoction has obvious relieving alcoholism and anti-temulence effects. In the decomposed group, Gehua group, Liqi group and Jianpi group have the strongest effect.

**References:**

**Neuropsychiatric pharmacological action of Suanzaoren Decoction**

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**Abstract: Objective:** To summarize the main active ingredients and clinical application progress of Suanzaoren Decoction, and explore various aspects to provide guidance for the application of Suanzaoren Decoction in clinical treatment. **Methods:** Chinese literatures were obtained from CNK.com. Subtopic words such as Suanzaoren Decoction, pharmacological action and clinical application, sedation and hypnosis, anti-depression, anti-anxiety and brain protection were used for fuzzy retrieval. English literatures were collected from PubMedplus Theme Analysis and Intelligent Control. By utilizing Ultrasonic Extraction, UPLC-HDMS Combined with Multivariate Statistical Analysis of Dynamic Metabolism Spectrum, Establishment of Sleep Deprivation Model by Multi-Platform Water Environment Method. **Results:** Jujube seed saponins
can better regulate the sleep status of mice, significantly shorten the sleep latency of mice, reduce
the spontaneous activity of mice, and also cooperate with the central nervous inhibition of
pentobarbital sodium. Spironolactone plays a significant role in sedation and hypnosis; mangiferin
is used to treat neurasthenia by providing monoamine oxidation inhibition. Suanzaoren Decoction
can enhance sleep activity by presynaptic inhibition, postsynaptic inhibition and regulation of
another excitatory transmitter at the same nerve endings. Sleep deprivation can induce
cardiomyocyte apoptosis. The mechanism of Suanzaoren Decoction improving sleep may be related
to regulating the expression of Bcl-2 and bax. Conclusion: To sum up, Suanzaoren Decoction has
achieved certain results in effective ingredients, effective research and mechanism of action, and its
clinical efficacy in anti-insomnia, anti-depression and anti-anxiety is remarkable.

Keywords: suanzaoren decoction, pharmacological action

Proteomics on the Material Basis of Kidney-Yang Deficiency Syndrome Based
on the Relevance of Formula and Syndrome

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Abstract: Objective: Based on the theory of TCM formula and syndrome, iTRAQ technology was
used to screen the changes of different proteins related to deficiency syndrome in aging process,
Jingui Shenqi pill was used to intervene aging mice, and the material basis of Yang deficiency
syndrome was explored by formula and syndrome testing mode. Method: Mouse liver tissues were
extracted and enzymatically hydrolyzed by protein filter membrane-assisted enzymatic hydrolysis
method. After that, iTRAQ was labeled. The iTRAQ labeled samples were collected by Easy
nLC1000 and Orbitrap Elite liquid chromatography-mass spectrometry platform. The data were
screened by UniProt release 2016_07 database. Significant B algorithm was used to make use of
residual error function to Foldchange > 1.2 or < 0.83, and P < 0.05 to carry out differential proteins.
The differential proteins were screened and identified for bioinformatics analysis. Results: A total of
995 differential proteins were identified in the youth group and the aged group, 674 differential
proteins were identified in the aged group and the Jingui Shenqi Pill group, and 79 differential
proteins were found to be reversed after Jingui Shenqi Pill was administered. Conclusion: The
differentially expressed proteins of Jingui Shenqi Pill were mainly concentrated in Osteoclast
differentiation, Central carbon metabolism in cancer, Aminoacyl-tRNA biosynthesis, Complement
and coagulation cascades and Arachidonic acid metabolism.

Keywords: Proteomics; Jingui Shenqi Pill; Yang Deficiency Syndrome

Objective
Relevance of formula and syndrome is the core of TCM diagnosis and treatment of diseases
under the guidance of syndrome differentiation and treatment[1]. Kidney Qi of Golden Chamber is a
classic prescription for treating kidney-yang deficiency[2]. Proteomics technology is to study the
quantification, dynamics and integrity of the body at the protein level from the perspective of
molecular biology. Its core idea and multi-target research methods are highly consistent with the
"holistic" and "dynamic" characteristics of TCM syndromes [3-4].

Based on the theory of formula and syndrome, proteomics technology was used to observe the
expression of differentially expressed proteins related to aging. After the intervention of Jingui
Shenqi Pill, the differentially expressed proteins with obvious callback were observed and analyzed
for functional annotation and pathway enrichment. The kidney-yang deficiency syndrome was
explored from the overall level of protein expression.

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Materials and methods

SPF grade ICR male mice, 10 3-month-old mice and 20 20-month-old mice, were purchased from Liaoning Changsheng Biotechnology Co., Ltd. (License No. SCXK (Liao) 2010-0001). Drug preparation method: Chinese herbal decoction pieces (purchased from Heilongjiang University of Traditional Chinese Medicine Medical College). The crude drug concentration was about 0.81 g. mL⁻¹, which was preserved at 4°C. Ten 3-month-old male mice were in the youth group, and 20 20-month-old male mice were randomly divided into the aged group and Jingui Shenqi Pill group, with 10 mice in each group. Jingui Shenqi Pill group was given 10.53 g/kg intragastric administration. Youth group and old group were given the same amount of normal saline.

In each group, 100 g sample protein was added and enzymatic hydrolysis was carried out by FASP. After enzymatic hydrolysis, 100 UL TEAB buffer was washed twice, 1% FA was added to the final concentration of 0.1%. After fully mixing, 20 l was packed separately in each tube, and the peptide segments were freeze-dried and frozen at -80°C for reserve. After that, 20 g of each sample was used for iTRAQ labeling. After obtaining the original data of mass spectrometry detection, the original atlas files generated by Orbitrap Elite series liquid chromatography-mass spectrometry platform were retrieved by Maxqant, and UniProt release 2016_07 (www.uniprot.org) was used in the database. After obtaining the results of the original data, the matching protein and contaminated protein of bait library were deleted, and the reported ion peak area of each group was normalized to reduce the impact of protein mixing errors in each channel, which made the data comparable among the experimental groups.

Results and discussion

The screening conditions for differentially expressed proteins were Foldchange > 1.2 or < 0.83, P-value < 0.05, and the protein had a definite gene name. It was found that 79 differentially expressed proteins were reversed after Jingui Shenqi Pill was administered. The GO database was used for functional enrichment analysis. It was found that these proteins were mainly involved in biological processes such as oxidation-reduction process, angiogenesis, glucose and lipid metabolism process. KEGG website was used to render the content of differentially expressed protein. The results showed that the differentially expressed proteins were mainly concentrated in five pathways: Osteoclast differentiation, Central carbon metabolism in cancer, Aminoacyl-tRNA biosynthesis, Complement and coagulation cascades and Arachidonic acid metabolism.

The aging process is accompanied by the deficiency of Yin, Yang, Qi and blood in random body. The deficiency of Yang is mainly kidney-yang deficiency, and Jingui Shenqi Pill is a classic formula for treating kidney-yang deficiency. Based on the theory of "correlation between formula and syndrome" in Traditional Chinese Medicine, the experiment used proteomics technology to intervene natural aging mice with Jingui Shenqi pill. 79 differentially expressed proteins were found to be up-regulated in the differentially expressed proteins between the youth group and the aging group, and back-regulated after Jingui Shenqi pill was administered. The biological functions and pathways of these differentially expressed proteins were analyzed in order to explore the relationship between Jingui Shenqi pill and aging process. Material basis of deficiency of kidney-yang syndrome. The results showed that the main biological processes involved in differential proteins were redox reaction, angiogenesis, glucose metabolism, lipid metabolism, and positive regulation of TNF biosynthesis. The molecular functions involved were oxidoreductase activity, heme binding, etc.

TRAF6 in osteoclast differentiation pathway is not only the central link of the signal network, but also an important target of cytokine and hormone regulation. Sqstm1/p62 plays an important role in the scaffold protein of RANK signaling pathway. The deletion or mutation of UBA region of p62 can inhibit the activation of NF-kappa B signaling pathway, and lead to the abnormality of osteoclasts leading to Peggitt's disease. Sqstm1/p62 can regulate autophagy, reactive oxygen species and mitosis of cancer cells, and is an important regulator of tumorigenesis. Akt2 is the main kinase of antioxidant stress in Akt family. It inhibits apoptosis induced by hydrogen peroxide through several signaling pathways. The results showed that Jingui Shenqi Pills could affect the
differentiation of osteoclasts and the pathway of carbon metabolism in cancer center by regulating the level of Akt2.

To sum up, Jingui Shenqi Pill can adjust the changes of differential proteins in multiple metabolic pathways related to Senile Deficiency syndrome. These differential proteins are mainly involved in osteoclast differentiation, glycolipid metabolism, apoptosis, autophagy, redox and other biological functions. It is preliminarily speculated that the material basis of kidney-yang deficiency syndrome is related to this. The specific mechanism of action between differential proteins needs further biological verification and multidisciplinary points.

Reference:

Research on the Application of Cosmetology and Health Care Technology in Traditional Chinese Medicine

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Abstract

Chinese Medicine Cosmetology in China has a long history, a wide range of types, including Chinese herbs cosmetology, acupuncture cosmetology, meridian cosmetology, massage cosmetology, meal cosmetology, health cosmetology, physical health and other technologies. In recent years, with the development of society, economic growth, people ushered in a wealthy life, but at the same time various work and life stress which led to the sub-health of the physical condition. Chinese medicine cosmetology care technology is an important means to improve the sub-health state, and the application is also very wide, used to prevent disease, improve sub-health status, anti-aging and so on.

Key words: Chinese medicine cosmetology; Chinese herbs cosmetology

Traditional Chinese Medicine Cosmetology refers to the guidance of the basic theory of Traditional Chinese Medicine[1]. Pay attention to the holistic view, through adjusting Yin-Yang and viscera, achieve the cosmetic effect of visceral detoxification and external treatment of skin. Applying the principles of holistic concept, syndrome differentiation and treatment[2], and quality differentiation and adjustment to improve human body, harmonize human blood and qi, repair human body fluid, and reshape human spiritual outlook. Therefore, it is a subject of delaying senility and achieving physical fitness.

Objective

Traditional Chinese medicine cosmetology and health care technology includes Chinese herbs cosmetology, acupuncture cosmetology, meridian cosmetology, massage cosmetology, meal cosmetology, health cosmetology, physical health and other technologies and other technologies. It can be seen that there are various kinds of Traditional Chinese Medicine Cosmetology, and each has its own advantages. TCM cosmetology and health care technology is mainly applicable to chloasma,
Materials and methods
Traditional Chinese herbal or medicinal bath to prevent the occurrence of beauty-damaging diseases. It can be divided into two types: health care type and treatment type. Chinese herbal of health care type have the functions of moisturizing skin, removing wrinkles, whitening, black hair and preventing chapped skin. Therapeutic Chinese herbs has the effect of removing scars, warts, black spots and acne. Modern research has found that Chinese herbs is a good treatment for acne. The best effect of Chinese herbs such as Shouwu, Mulberry, Ginseng, Ganoderma Lucidum, Chinese Yam, Rehmannia, Ginseng, Astragalus, etc. These are all herbs for tonifying qi, nourishing blood and yin. Compared with synthetic chemicals, they have less toxic and side effect.

Acupuncture cosmetology is based on traditional medical concepts, through skin acupoint stimulation skin care to fight aging and treat facial skin diseases. Acupuncture cosmetology has the advantages of non-toxicity, harmlessness, convenience and quick effect. For example, acupuncture at Baihui can prevent and treat overeating and dry stool. Acupuncture at Cuanzhu can relieve fatigue and eye swelling caused by overuse of eyes. Acupuncture at Qihuo can enhance separating the clear from the turbid of small intestine. Acupuncture at Yingxiang can relieve back pain and nasal congestion. Acupuncture at Jiahe can relieve toothache and trigeminal neuralgia. Patients who are prone to fainting are advised to choose other health care methods.

Meridian cosmetology is based on the basic theory of TCM, mastering the distribution, characteristics and main symptoms of 14 meridians and collaterals skillfully. It is through stimulating acupoints to dredge meridians and collaterals and prevent diseases. Meridian cosmetology includes acupuncture, massage, scraping, cupping and auricular point therapy. It requires strict manipulation of operators in order to prevent accidents during operation.

Constitution regulation is guided by the basic theory of TCM physique and based on the principle of differentiation of quality and adjustment, aiming at improving biased physique, keeping beauty in the face and strengthening the body. It can improve the sub-health state, and embodies the thought of "treat the disease, but preventive treatment of disease" in traditional Chinese medicine. Human constitution is generally divided into nine types, including Qi deficiency constitution, Yin deficiency constitution, Yang deficiency constitution, blood stasis constitution, peaceful constitution, phlegm-dampness constitution, damp-heat constitution, Qi depression constitution and special constitution. Peaceful constitution is the most healthy constitution, accounting for about 32.75% of the population. After physical evaluation, comprehensive conditioning is carried out, such as diet, medicine and emotional regulation. Gradually the body's Yin and Yang will rebalance and all kinds of health indicators will reach the target. Other health care technologies include dietary beauty, four seasons health care, music, psychological beauty and Qigong beauty.

Results and discussion
To sum up, there are many kinds of TCM cosmetology and health care technologies, which are widely used. It is a health care method characterized by Chinese medicine, internal and external consideration, simple operation, accurate effect and combination of prevention and treatment. Most people can achieve the goal of psychological beauty and physical beauty through the beauty and health care methods described above.

Traditional Chinese Medicine has gradually entered the world. It is immeasurable for the development of TCM cosmetology which is gradually going to the world. With the improvement of the quality of life, more and more people are seeking beauty. The technology of TCM cosmetology and health care needs to be innovated in time. At the same time, the demand for practitioners will be
higher and higher, which will promote the healthy development of higher education of TCM cosmology. It is necessary to develop and progress together with the technology of TCM cosmology and health care. The cosmology of Traditional Chinese Medicine should be internationalized widely.

**References:**


**Progress in the application of Liuwei Dihuang Pill in pediatric clinical**

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Liuwei Dihuang Pill is a famous prescription in the Song Dynasty. It was first seen in Qian Yi's "Pediatric Drugs Direct", which has been applied for more than 900 years. Liuwei Dihuang Pills include six kinds of drugs: rehmannia, yam, hawthorn, peony bark, medlar and diarrhea, which are used to treat children with dysplasia and stenosis[1]. In recent years, internal and surgical applications have been expanding, and the scope of treatment has gradually expanded, but pediatric applications are relatively rare. The author will now summarize the clinical application and research of the pediatrics as follows:

1. **Neurogenic urinary frequency and enuresis**

   Enuresis in children is one of the common diseases in pediatrics. The results of a survey of 3,035 children of different ages in China indicate that the incidence rate is 5% to 12%[2]. Liuwei Dihuang Pill can nourishing Yin tonifying kidney in treating this disease. Wang Ping[3] based on Liuwei Dihuang Pill, combined with traditional Chinese and Western medicine treatment of 68 children with neurological urinary frequency, total effective rate is 95.6%. Li Jishu[4] used Liuwei Dihuang Pills (concentrated pills), treatment of 100 cases of neurological urinary frequency in children, all treatments were cured on 7 days, and 21 cases of recurrence were cured after repeated treatment. Wang Hongxin[5] and other 180 children with enuresis observed that Liuwei Dihuang Pill can significantly improve the level of sleep arousal.

2. **Nephrotic syndrome**

   Nephrotic syndrome (NS) is a clinical syndrome that causes an increase in glomerular basement membrane permeability due to various causes, resulting in loss of large amounts of protein in plasma. Simple hormone therapy is easy to relapse, which is the main cause of the disease is difficult to cure. Li Yongjian et al [6] with NS: combination of traditional Chinese and Western
medicine in the middle and late stages of long-term therapy with hormones and Liuwei Dihuang Pills in the treatment of 40 children with the disease, the total effective rate was 92.5%. Huang Zhiyong \(^7\) found that Liuwei Dihuang Pills Decoction can reduce the levels of serum growth hormone, insulin growth factor-1 and its binding protein 3 in children with long-term application of super physiological dose of glucocorticoid.

3. Twitching-slang syndrome

Twitching-slang syndrome is a chronic neuropsychiatric disorder that is more common in childhood. The clinical features are characterized by one or more groups of muscles unconsciously twitching and various vocal disorders. Accompanied by behavioral problems such as attention deficit, hyperactivity disorder, and obsessive-compulsive disorder \(^8\). Kou Shaojie \(^9\) added Liuwei Dihuang Decoction and Tianma Gouteng Decoction on the basis of oral haloperidol. Compared with oral haloperidol group, the total effective rate of Liuwei Dihuang Decoction group was 90%. The total effective rate of the alcohol group was 66.7%, and the difference was statistically significant (P < 0.01).

4. Sensory integrative dysfunction

Sensory integrative dysfunction (SID), for various reasons, makes sensory stimulation information not effectively combined in the central nervous system, so that the entire body can not operate in harmony and effectively, medically known as SID. Deng Xuemei et al \(^10\) observed the clinical efficacy of Chinese medicine in the treatment of sensory integration disorders on the basis of sensory integration training. In the observation group, 42 patients were treated with sensory integration training and Chinese medicine Liuwei Dihuang Decoction was added. 44 patients in the control group were treated with sensory integration training alone. After treatment, the vestibular imbalance, tactile excessive defense, proprioception, and learning ability development scores were significantly improved in the observation group. Compared with the control group, the difference was statistically significant (P < 0.05).

5. Children with bronchial asthma

Bronchial asthma is a common chronic inflammatory disease of the respiratory tract. Many children with asthma are recurrent and prolonged due to untimely treatment or improper treatment. The lung function is seriously affected. Loss and eventually develop into adult asthma. Li Feng \(^11\) randomly divided 50 children with bronchial asthma into 25 patients in the combined application group and the control group. The control group was treated with corticosteroid inhalation alone. The combined application group was treated with corticosteroid inhalation combined with Liuwei Dihuang Pill. The results were combined. The peak expiratory flow rate of the application group was (200.33±28.11) L/s, which was higher than that of the control group (180.12±20.31) L/s, and the difference was statistically significant (P<0.05). A study of Sun Jinghui \(^12\) found that Liuwei Dihuang Pill can not only reduce eosinophils in sputum of children with bronchial asthma, can also improve lung function in children.

6. Children's sweat syndrome

Children's sweat syndrome is one of the children's miscellaneous diseases, which refers to a condition of abnormal sweating, that is, in a quiet state, there is no cause of excessive body or partial sweating, and even sweating \(^13\). Qi Fengming \(^14\) mainly used Liuwei Dihuang Pills to treat 50 children with sweat syndrome, 48 cases were cured, 2 cases were effective, and the total effective rate was 100%. Among them, 1 case was cured in 5 cases, 3 cases were cured in 13 cases, 5 cases were cured in 15 cases, and 8 cases were cured in 15 cases.

7. Others

Gu Mingming \(^15\) found that Liuwei Dihuang Pill has a good repair effect on children's brain dysfunction and mild concussion. Xu Xueliang et al \(^16\) found that Liuwei Dihuang Pill can effectively treat periodontitis in adolescents, Sun Yanmin et al \(^17\) used Liuwei Dihuang Pill to treat children's growth pain, children's habitual constipation and other difficult diseases to achieve good results. In addition, there are reports on the use of Liuwei Dihuang Pill to treat incurable diseases. For example, Huang Deyou \(^18\) used Liuwei Dihuang Pill to treat deafness, sudden aphasia, and adolescent uterine bleeding after children's JE.
In summary, Liuwei Dihuang Pill has a wide range of clinical applications in pediatrics, involving many diseases, especially in the contemporary era, there are many new therapeutic findings, which can provide reliable treatment ideas and research inspiration for pediatric clinicians and researchers.

**Advances in the Application of Traditional Chinese Medicine in the Treatment of Gout**

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**Abstract**
Gout is an inflammatory reaction caused by the precipitation of monosodium urate from the supersaturated cell fluid and deposition in the joint and its surrounding joint capsule, synovial capsule and cartilage. [1] In recent years, with the change of the people's diet structure, such as protein, sugar, fat intake increased significantly and gout prevalence rate increased, the treatment of western medicine because there are more adverse reaction and limits the clinical application of traditional Chinese medicine because of its multiple targets, the characteristics of high security, this paper reviews the research progress of traditional Chinese medicine treatment of gout.

**Key words:** gout; Traditional Chinese medicine; review

**Objective**
This paper reviews the application and research progress of traditional Chinese medicine in treating gout, and summarizes its clinical research. Provide better treatment for patients, improve the quality of life, and provide reference for further research.

**Materials and methods**
1. Ethanol extract of plantain
   Plantain herb has the effect of clearing heat and diuresis. Studies have found that the ethanol extract of plantain herb can inhibit the Na+-K+ -atpase activity of horse kidney and promote the excretion of urea and uric acid. [2] It was found that the extract of plantain herb could not only reduce the uric acid level in the blood of the model mice, but also improve the kidney function of the model mice to some extent.

2. Powder bi yam
   Fei hongrong et al. [3] found that high-dose powder bi extract can significantly reduce the serum uric acid content in mice and rats, which is equivalent to benzbrromalone. Dioscoside can significantly reduce the serum uric acid level of hyperuricemia rats induced by adenine and ethambutol, and has obvious prevention and treatment effect on acute gouty arthritis in rats.

3. Polygonum cuspidatum extract
   Hou jianping [4] found that different extraction sites of polygonum knotweed could inhibit the serum uric acid of hyperuricemia mice induced by potassium oxinate, inhibit the activity of xanthine oxidase, and improve the pathological changes of gout arthritis. Pharmacological studies have shown that the main components of polygonum cuspidatum have the effects of improving local blood circulation, antioxidant free radicals, reducing inflammation exudate, promoting local absorption of inflammatory exudate, reducing adhesion caused by local inflammatory reaction, promoting the repair of damaged tissues, and so on. It also has a good analgesic effect.

**Results and discussions**
The characteristics of traditional Chinese medicine (TCM) has multiple components, multiple targets, in recent years, Chinese medicine treatment of gout also made big progress in basic research, the mechanism of action of traditional Chinese medicine treatment of gout based on a large number of experiments, found the Chinese native medicine ingredient, compound can process
of controlling the incidence of acute gouty arthritis by inflammatory cytokines, inflammatory and related pathways play a role of treatment.

References:

Preliminary Study on the Mechanism of Inonotus Obliquus alcohol extract on BGC-823 Tumor-bearing Mice with Gastric Cancer

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Abstract
Inonotus obliquus has a long history of antitumor activity, Research shows that the alcohol extract of Inonotus obliquus has a very significant anti-cancer effect [1]. In recent years, the incidence of gastric cancer has increased year by year [2]. It is necessary to study the treatment and pathogenesis of gastric cancer. PI3K/AKT pathway is an important anti-gastric cancer pathway [3-4]. Therefore, by detecting some indicators of PI3K/AKT pathway, the mechanism of the ethanol extract of Inonotus obliquus on BGC-823 tumor-bearing mice was preliminarily discussed.

Key words: Inonotus Oigliquus alcohol extract; gastric cancer; BGC-823; PI3K/AKT pathway

Objective
By observing the morphological changes of tumor tissues and the changes of serum related proteins in mice with gastric cancer treated with Inonotus Obliquus alcohol extract, we preliminarily explored the anti-gastric cancer mechanism of Inonotus Obliquus alcohol extract through PI3K/AKT pathway.

Materials and methods
Experimental animals: Choice male nude mice forty-eight, weight (20±2) g. They were randomly divided into six groups: blank control group; model group; positive control group; Inonotus Obliquus alcohol extract high, medium and low dose groups. In addition to the blank group, after 72 hours of adaptive feeding, mice in the other groups were inoculated with BGC-823 cell suspension under the axilla to establish the model of BGC-823 gastric cancer-bearing mice. The tumors grew to about 0.8 cm in diameter and began to be administered. The samples were taken 14 days later. Tumor tissue morphology was observed by HE staining; ultrastructure was observed by electron microscopy; spleen index and inhibition rate were measured; average optical density of related proteins in tumor tissue was measured by immunohistochemistry; and serum levels of related factors were measured by ELISA.

Results and discussion
The growth of BGC-823 tumor-bearing mice was significantly inhibited by the Inonotus Obliquus alcohol extract, it is concentration dependent. The inhibition rate increased with the increase of drug concentration, the anti-tumor rate of highest-dose group was (35.08 ±12.59)% . Under light and electron microscopy, cell death increased in the treatment group,
especially in the positive control group and the highest-dose group. Tumor interstitial blood vessels were abundant in the model group, and fewer in the alcohol extract group and the positive control group. The content of VEGF, TNF-α, MMP9 was determined by ELISA, there were significant differences between the positive control group and the dosage groups of Inonotus obliquus and the model group (p < 0.05). Immunohistochemistry showed that 4E-BP1, P27, Bax and caspase 3 were highly expressed in the positive control group and the highest-dose group of Inonotus Obliquus alcohol extract, while the histone expression of model was low. The histone expression of Inonotus obliquus at high, medium and low doses showed a decreasing trend. The protein expression of c-myc and survivin was contrary to the above four indicators.

Through the detection of several upstream indicators of PI3K/AKT pathway, it was preliminarily concluded that the alcohol extract of Inonotus obliquus could inhibit the growth and metastasis of BGC-823 tumor-bearing mice. Its mechanism may be to inhibit the growth of tumors by down-regulating the factors that inhibit apoptosis, promote proliferation, and increase the content of related factors that promote apoptosis and inhibit proliferation.

References:

**Effect of Zhenzhu Xiaoji Decoction on Autophagy and Apoptosis of Hepatocellular Carcinoma Cells**

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Zhenzhu Xiaoji decoction is founded based on the theory of traditional Chinese medicine and many years of clinical experience. This decoction consists of ligusticum lucidum ait, curcuma zedoaria, asian selfheal, oldenlandia diffusa and liquorice.

**Objective**
The experiments explored the effects of Zhenzhu Xiaoji decoction on the morphology of hepatocarcinoma cells in vitro and in vivo. Its mechanism was researched, too.

**Materials and methods**

**Materials**
The herbs were purchased from the first affiliated hospital of Heilongjiang University of Chinese medicine. SMMC-7721 hepatocellular carcinoma cells and the kits of these experiments were from Boston company. H22 cells were from Beijing institute of oncology. ICR mice were provided by Heilongjiang University of Chinese Medicine.

**Methods**
In vitro experiments were carried out. Firstly, the serum containing Zhenzhu Xiaoji Decoction was prepared. SMMC-7721 cells were cultured in vitro. The cells containing different concentrations of the drug-containing serum culture solution were treated for 24 hours. The morphology of the cells was observed by inverted microscope. Autophagy and apoptosis were detected by fluorescence microscopy using MDC and Hoechst 33258 staining. In vivo experiments, H22 mouse hepatoma cells were transplanted into the skin of ICR mice’s axilla, and Zhenzhu Xiaoji Decoction was administered by intragastric administration for 10 days. Hematoxylin-eosin (HE) staining was used to observe the changes of cell morphology in each group under light microscope. Ultrastructural changes of cells in the model group and Zhenzhu Xiaoji Decoction group were observed by
transmission electron microscopy. Survivin mRNA expression was detected by real-time PCR. Signal transduction and transcription activator 3 (STAT3) protein and anti-apoptotic factor(Survivin)protein expression were detected by immunohistochemistry.

**Results and discussion**

The number of hepatoma cells in the Zhenzhu Xiaoji Decoction group was lower than that in the model control group. Some cells became round, which volume was reduced, and the cells shrunk. In the meantime, the number of cells suspended in the medium gradually increased with dose dependence. It was found that the drug induced cell autophagy and apoptosis by fluorescence microscope. In vivo experiments, under the light microscope, the cells were sparsely arranged in the Zhenzhu Xiaoji Decoction group, and a large number of vacuoles were formed in the tissue. Transmission electron microscopy showed that autophagosomes and autophagy lysosomes were found in the cells of Zhenzhu Xiaoji Decoction group, and the nuclear wrinkles were found. Compared with the model control group, the Survivin mRNA was lower in the Zhenzhu Xiaoji Decoction group than in the model group; the expression of STAT3 and Survivin was down-regulated in the Zhenzhu Xiaoji Decoction group. Conclusion The anti-tumor mechanism of Zhenzhu Xiaoji Decoction may be related to the induction of autophagy and apoptosis, and it may play a role in inhibiting STAT signaling pathway.

**Key words:** Zhenzhu Xiaoji Decoction; Hepatocellular Carcinoma Cells; Autophagy; Apoptosis

References:

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**Effect of Kangmai soft capsule on vascular endothelial function in ASO rats**

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**Objective**

The objective of this study was to explore the effect of Kangmai soft capsule (KMSC) on the vascular endothelial function in atherosclerotic occlusive (ASO) rat model.

**Material and method**

Sixty rats were randomly divided into six groups: the model group, the sham-operate group, the YZGZ high dose group (0.9180 g • kg⁻¹ • d⁻¹), middle dose group (0.4590 g • kg⁻¹ • d⁻¹), low dose group (0.2295 g • kg⁻¹ • d⁻¹) and Tongsaimai tablet group (0.4725 g•kg⁻¹•d⁻¹). The left hind limb skin
of the rat was incised, the saphenous artery was separated, and the two ends of the artery were clamped, about 1.5 cm, and then 0.2-0.3 ml of double distilled water was injected to make the blood vessel transparent. After 5 min, the needle was removed, and the hemostasis was pressed and sutured. After the model was completed, the rats were continuously fed with high-fat diet, and the vitamin D3 injection (300,000 U/Kg body mass) was injected into the right hind limb muscle at the beginning of the experiment, and injected once every 4 weeks for 8 weeks. The same volume of distilled water was given to the model group and the sham-operate group. SD rats were sacrificed immediately after the last administration for 1 h, and saphenous artery were rapidly removed. Placed in 10% formalin, sliced, performed HE staining.

Results
The results of saphenous artery pathology test showed that all rats in model group had incomplete saphenous artery endothelial cells and with plenty inflammatory factors infiltration, as well as thrombosis formation in the vascular, but none in sham-operated group showed any effects, suggested that the ASO rats model were successfully established. Compared with the model group, the intravascular thrombus in KMSC group was significantly reduced, vascular endothelial cells arranged relatively regular, smooth muscle cells tended to normal, inflammatory factors infiltration and connective tissue proliferation were significant alleviated.

In addition, the results of vascular endothelial function test showed that KMSC could remarkable increase the content of NO (P < 0.01) in ASO model rats, decrease ET-1 content and ET/NO ratio (P < 0.05, P < 0.01), significantly reduce TNF-α and IL-1 levels (P < 0.05) as well as alleviate vascular endothelial injury.

Conclusion
The present results suggested that treatment with KMSC may prove to be an effective therapeutic approach for ASO. From the data of this study, we concluded that the KMSC may relieve or treat vascular endothelial injury caused by ASO. Therefore, the effect of KMSC in ASO require further investigation in animal model, as well as in cells model of ASO.

References:

Study on pharmacological effect and clinical application of Banxia Xiexin Decoction

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Abstract
Objective: To study the pharmacological effects and clinical application of the classic name Banxia Xiexin Decoction. Methods: The related literatures of Xia Xiexin Decoction in recent years were summarized, and the pharmacological effects and clinical application of Banxia Xiexin Decoction were reviewed and analyzed. Results: Banxia Xiexin Decoction has the functions of regulating gastrointestinal motility, protecting gastric mucosa, anti-inflammatory, and regulating immunity. It is mainly used for the treatment of digestive diseases. Conclusion: Banxia Xiexin
Decoction is safe and effective. It is widely used in clinical practice and has remarkable curative effect. It has great development prospects and plays a positive role in the research and development of traditional classic prescriptions.

**Keywords:** Banxia Xiexin Decoction, pharmacological effects, clinical application

Banxia Xiexin Decoction is a classic prescription for the treatment of cold and heat. It has the effect of cold and heat regulation, and stomach down, dispersing and removing phlegm. For the syndrome of cold and heat, the heart is sputum, but full of pain, or vomiting, bowel sounds, tongue greasy and slightly yellow, pulse string number.

**1 Pharmacological effects**

Modern pharmacological research believes that Banxia Xiexin Decoction has the pharmacological effects of repairing gastric mucosa, regulating gastrointestinal function in both directions, and regulating immunity.

**1.1 Regulating immunity**

Yang Xu et al.[1] used Banxia Xiexin Decoction to improve gastrointestinal motility disorders, reduce blood sugar, reduce intestinal mucosal permeability, up-regulate anti-inflammatory factor levels, promote probiotics formation, and inhibit harmful microflora. Reduce intestinal flora damage to intestinal mucosal barrier and regulate intestinal mucosal immune response.

**1.2 Anti-inflammatory and antibacterial**

Yang Guizhen et al.[2] found that Banxia Xiexin Decoction inhibits the secretion of IL-8, IL-18, TNF-α and other inflammatory factors by macrophages by regulating the activity of innate immune cell macrophages, and alleviates inflammation of gastric mucosal epithelial cells. Sexual damage. It can effectively treat gastritis caused by Helicobacter pylori infection.

**1.3 Inhibition of apoptosis**

Du Lijuan[3] experimental study found that Banxia Xiexin Decoction can regulate the expression of downstream factors, improve the apoptosis of RIN-m5F cells and promote the secretion of insulin by activating the PI3K/AKT pathway.

**2 Clinical application**

**2.1 Functional dyspepsia (FD)**

Chu Chenghai et al.[4] through the clinical observation of Banxia Xiexin Decoction for functional dyspepsia, found that patients with functional dyspepsia treated with Banxia Xiexin Decoction can help relieve clinical symptoms, improve clinical efficacy and quality of life, and promote rehabilitation.

**2.2 Peptic ulcer (PU)**

Ding Lin[5] found that Banxia Xiexin Decoction has a significant effect in the treatment of peptic ulcer, and it is safe and can effectively improve the symptoms and signs of patients.

**2.3 Ulcerative colitis (UC)**

Huang Liang[6] in the treatment of ulcerative colitis patients with Banxia Xiexin Decoction can effectively improve its clinical efficacy, speed up its clinical symptom relief, help inhibit the body's inflammatory response, improve their quality of life, and Less adverse reactions and safer safety.

**2.4 Diabetic gastrointestinal autonomic neuropathy**

Fan Jinwen[7] Banxia Xiexin Decoction is beneficial to patients with diabetes mellitus complicated with gastroparesis to better control blood sugar levels, can promote the recovery of gastric motility, and the clinical treatment effect is remarkable.

**3 Discussion and results**

Banxia Xiexin Decoction is used for the treatment of digestive diseases. It has good curative effect and should be worthy of promotion and in-depth study. The party is rigorous and effective in combination with other drugs. It is safe and effective. On the basis of respecting the classic name, it should further innovate and develop traditional Chinese medicine compound preparations and dosage forms.

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RP-HPLC-UV determination of ginsenoside Re, Rg1 and Rb1 in Qingxin Lianzi Yin

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Abstract
QingXin LianZi Yin was first published in volume 5 of the Song Dynasty medical book "Taiping Huimin Heji Prescription"[1]. This prescription has the functions of clearing heart fire, invigorating qi and nourishing yin, clearing heat and stopping gonorrhea[2]. Ginseng in Qingxin Lianzi Yin belongs to precious medicinal materials. Its main components are ginsenosides such as ginsenoside Re, Rg1 and Rb1. The content of these three components in the prescription can indirectly reflect the quality and efficacy of the prescription [3].

Key words: QingXin LianZi, Ginsenoside, RP-HPLC-UV

Objective
In order to better guarantee the pharmacological and pharmacodynamic effects of Qingxin Lianzi Yin, RP-HPLC-UV method was used to establish the determination methods of ginsenoside Re, Rg1 and Rb1 in Qingxin Lianzi Yin, which can objectively, accurately and quantitatively reflect the quality and efficacy of Qingxin Lianzi Yin, and provide reliable experimental basis for the application and quality evaluation of Qingxin Lianzi Yin.

Materials and methods
Chromatographic column: Sinochrom ODS-BP column (4.6 mm *200 mm, 5 micron); column temperature: 25 C; flow rate of mobile phase: 1.0 mL/min; detection wavelength: 203 nm; sample injection: 10 μL; mobile phase A: water, mobile phase B: acetonitrile; time gradient elution procedure, elution conditions: 0-35 min, 81% -71% A; 35-55% -71% A; 70-100 min, 71-60% A. The chromatographic peaks in the samples and the control samples all showed good separation effect. The theoretical trays of the corresponding chromatographic peaks were more than 6000. The chromatogram was shown in Fig. 1.

Results and discussion
The ginsenosides Re, Rg1 and Rb1 were completely separated in the QingXin LianZi within 100 min. The linearity of the ginsenosides Re, Rg1 and Rb1 was linear with the mass of the QingXin LianZi and the peak area of the chromatogram.

The linear equations of ginsenosides Re, Rg1 and Rb1 were $y=0.5752x-0.0961 (r=0.9994), y=1.3157x-0.2006 (r=0.9998), y=0.6637x+0.2091 (r=0.9997)$, respectively. The average recoveries of ginsenosides Re, Rg1 and Rb1 were 101.08% (RSD=1.77%), 99.40% (RSD=2.55%), 100.11% (RSD=2.83%).

![HPLC chromatograms of mixed standards](image)

**Fig.1** HPLC chromatograms of mixed standards(A) qingxinlianzi (B)

Three batches of different batches of Qingxin LianZi Yin samples (batches 20190410, 20190411, 20190412) were selected. The peak areas of each chromatogram were substituted into linear regression equation to calculate the contents of ginsenoside Re, Rg1 and Rb1 in Qingxin LianZi Yin. The results are shown in **Tab 1**.

**Tab.1** The content of three components of on three samples (mg·dose$^{-1}$, $n=3$)

<table>
<thead>
<tr>
<th>batches</th>
<th>ginsenosides Re</th>
<th>ginsenosides Rg1</th>
<th>ginsenosides Rb1</th>
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<td>20190410</td>
<td>18.04</td>
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</tr>
<tr>
<td>20190412</td>
<td>17.90</td>
<td>4.87</td>
<td>16.59</td>
</tr>
</tbody>
</table>

References:

The relationship between research and development of obesity and depression

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**Abstract**

Obesity is one of the predictors of depression. In recent years, studies and opinions on obesity-induced depression and obesity aggravated depression have gradually been discovered. Researchers have found that obesity and depression are inflammatory and metabolic disorders. Relatedly, it has been found that compounds such as organochlorine cause obesity, and foreign reports of abdominal
obesity are one of the predictors of obesity depression. This article reviews the inflammatory factors, emotions and environmental factors in the study of obesity and depression.

**Key words:** Obesity, depression, Neuroinflammation

With the constant changes in the pace of life, the number of people suffering from depression is on the rise. At present, the number of people suffering from depression in China has exceeded 26 million. According to clinical statistics, depression is the most common cause of suicide in all patients, which has reached 10%-15%[1]. Depression has gradually become one of the main killers that endanger people's health. The probability of obesity in a person's life is about 58%. Studies have shown that obesity can induce and aggravate depression to a certain extent. With an in-depth study of obesity and depression, it has been found that there are some links between obesity and depression. This article mainly discusses and summarizes the relationship between obesity and depression.

**Inflammatory factor**

Both obesity and depression are an inflammatory state. Adipokines are cytokines or hormones secreted by white fat cells, including visfatin, resistin, adiponectin, leptin and the like. The above four factors except for adiponectin are all pro-inflammatory factors, and adiponectin belongs to anti-inflammatory factors[2]. In obese patients, the expression of pro-inflammatory and anti-inflammatory factors is imbalanced, pro-inflammatory factors are in a high level of expression, and anti-inflammatory factors are in a low-level expression state, so obese patients are in an inflammatory state, resulting in a lack of neuroinflammation. And immune activation is also one of the possible causes of depression. The researchers designed a group of SD rats into three groups by designing animal experiments. The rats in the blank group and the simple depression group were fed with high-fat diet based on common food feeding, and the obese group with depression, for a total of ten weeks. Two groups outside the group used unpredictable chronic stress procedures, including stress operations such as tail suspension, moist litter, and tilting cages for three weeks. Induction model of depression and obesity with depression model, behavioral experiments such as syrup preference, forced swimming and open field trials were carried out together with the blank control group. The experimental results showed that compared with the SD rats in the depression group, they were obese. In SD rats, the degree of depression is also generally more severe. This experiment can show that obesity may be one of the important reasons for the increase of depression[3].

**Emotional factor**

Obesity belongs to a metabolic syndrome, which reflects the unhealthy eating habits of people with depression. After obesity, they re-examine themselves, and then bring more negative emotional states to themselves. The emotional state can change the patient's choice of diet. Make patients more biased to choose some high-calorie foods, which will form a vicious circle. Studies have shown that the group of female patients with obesity and depression is much larger than that of male patients. Many obese women are not satisfied with their appearance and are in a negative emotional state for a long time. Women suffering from depression[4].

**Environmental factors**

Studies have shown that obesity and depression are affected to some extent by the environment, and some scholars have recently proposed this view. The cold period in the north is long, and people living in the north need to consume relatively high amounts of high-sugar and high-calorie foods to withstand the cold weather, and the outdoor activities are also shorter, which may lead to obesity in the long run. Studies have shown that many compounds can also cause obesity, such as bisphenol A, organic chlorine and phthalate and other dozens of compounds, widely in people's living environment, such as air, food, entertainment, etc[5]. In addition, there are factors similar to sleep, education, social status, etc., which indirectly lead to the risk of obesity with depression. At present, the mechanism of such induced obesity with depression is not deep enough and extensive. The mechanism of comorbidity and mutual induction between depression and obesity is complicated and unclear, but it will be comorbid for obesity and depression in the future. Research provides new ideas and directions.
Conclusion

In summary, the causes of comorbidity between depression and obesity are complex and diverse, and there is a certain relationship between the two. Studies abroad have shown that the incidence of depression in patients with metabolic syndrome is about 1 times higher than that of healthy people. British researchers conducted a follow-up survey of middle-aged civil servants for six years. Studies have found that high levels of triacylglycerol, abdominal obesity, and high-density, low-level lipoprotein cholesterol are key predictors of obesity depression. Symptoms may improve when weight loss occurs, possibly due to an improvement in insulin resistance symptoms.

Although there are some links between obesity and depression, as far as the current research status is concerned, whether obesity-induced depression or depression-induced obesity lacks a clear explanation of the pathological mechanism of the two, lacking both Direct causality. However, whether it is basic research or clinical investigation, it points to obesity as one of the possible predictors of depression. It provides new ideas and new directions for the study of obesity with depression in the future, and also proposes prevention for depression in the future. New warnings, clear mechanisms for obesity and depression comorbidities need to be further explored and explained in more in-depth research in the future.

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Sedative Effect and Application of Valeriana amurensis

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Abstract This article reviews the tranquilizing effect of thenatural medicine Valeriana amurensis Smir. ex Kom. .

Key words: Tranquilizing Effect, Volatile oil, Iridoids

Valeriana amurensis is a plant of the genus Valeriana of the family Valerianaceae, mainly distributed in Heilongjiang Province and Jilin Province. The roots and rhizomes of the genus Valeriana have a long history as a drug for sleeping improprem, Valeriana Pseudofficinalis powder is also used to treat insomnia[1]. According to the Chinese Materia Medica, the main functions of V. amurensis are treating insomnia, palpitations, malaise, etc[2].

1. Main Active Ingredients

The chemical constituents of sedative and tranquilizing action in V. amurensis are volatile oil, iridoids and sesquiterpenoids. With the content above 3.0%, the volatile oil in V. amurensis is a species with higher level in the genus. Valtrate is a representative active ingredient in iridoids, and it has the highest content in V. amurensis compared with Valeriana fauriei Briq. and Valeriana alternifolia Bunge var. stolonifera Bar.et Skv. .

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2. Tranquilizing Effect

The petroleum extract, ethanol extract and Volatile oil of *V. amurensis* all show obvious sedative effect, they can inhibit the spontaneous activity of mice, produce synergistic effect with pentobarbital, shorten the sleep latency, increase the sleep rate and prolong the sleep duration of mice. The mechanism of action is related to increasing the contents of GABA and 5-HT in the brain of mice. The petroleum extract of *V. amurensis* can also prolong the sleep time of sleep-deprived flies[3].

Conclusion

At present, most of the drugs for clinical treatment of insomnia are synthetic chemical drugs, which have certain side effects, such as dreaminess, poor sleep sensation, and easy dependence. Therefore, finding natural medicines for treating insomnia has become an urgent problem to be solved. As a natural medicine, *V. amurensis* has shown good activity in sedative-hypnotic, and has no side effects, indicating that it has broad development prospects.

Reference:


Research Progress of Chinese Medicines and Related Active Constituents for Treating Rheumatism

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Abstract: Chinese medicine treats rheumatism as a Han Bi syndrome, which is caused by internal, external, phlegm and stasis. The internal cause is mainly the lack of righteousness in the body, overwork, business health disorders, and external factors such as wind, cold and dampness. Phlegm and stasis is a new condition caused by the physiological products produced by certain diseases of the human body directly or indirectly acting on the human body.

The main idea of traditional Chinese medicine(TCM) treatment of Han Bi syndrome is Qufeng Chushi, Buzhong Yiqi, promoting blood circulation and removing blood stasis. Therefore, this article will be divided into the following categories according to the efficacy of traditional Chinese medicine,Qufeng Chushi drugs: Gentiana, Notopterygium incisum, Phellodendron, Duhuo, parasitic laranthus and so on. Buzhong Yiqi medicine: Angelica, licorice root, ginseng and so on. Blood Circulation drugs: Chuanxiong, Achyranthes, safflower and so on. Dispelling cold and Zhu Yang medicine: cinnamon, Radix Linderae, aconite and so on. Gentipicroside of gentiana, volatile oil and coumarin of notopterygium incisum, berberine in Phellodendron, volatile oil in the Duhuo, flavonoids in parasitic laranthus, alkaloids in aconite, volatile oil from cinnamon, volatile oil from radix Linderae, etc. It can inhibit the production of inflammatory factors in the body. Angelica polysaccharide, ginseng polysaccharide and licorice polysaccharide can improve the body immunity. Ligustrazine, total saponins ofachyranthes, and safflower yellow pigment can inhibit the formation of thrombosis in the body and play a role in promoting blood circulation and removing blood stasis.
Traditional Chinese medicine is made up of multi-flavored herbs, which inhibits inflammation and promotes bone regeneration, while improving the body's immunity. This is something that many Western medicines cannot match. Therefore, we should vigorously develop Chinese medicine and give full play to the advantages of traditional Chinese medicine. And in-depth study of the relevant mechanism of action of Chinese medicine, to prepare for the development of Chinese medicine.

**Key words:** rheumatism; traditional Chinese medicine; active ingredient; pharmacological action

**References:**

**New Progress of traditional Chinese Medicine in improving Sexual function**

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Male sexual dysfunction is one of the common male diseases in clinic, which meansthat the penis can not achieve or maintain enough erectile life to complete the satisfactor-y life, the course of disease is more than 3 months, thus affecting the normal life and the quality of life. In male, the prevalence of sexual weakness is generally 26%to 40%, especially for men aged 40 and above, seriously endangering the quality of life and physical health of men. Traditional Chinese medicine (TCM) has always played an important role in the treatment of ED. It is a common method in traditional Chinese medicine to treat sexual dysfunction with traditional Chinese medicine (TCM). Modern pharmacological studies have confirmed that traditional Chinese herbal medicine for tonifying the kidney and strengthening yang, such as Great Burdock Achene, Schisandrae Chinese Fructus, Clove, Epimedium Herb, mulberry, Asparagus cochinchinensis and so on, has been confirmed. And many traditional Chinese medicine prescriptions and combination drugs, such as Shugan Yiyang capsule, have their corresponding pharmacological effects. They can treat ED by affecting the central nervous system, sex hormones, gonadotropin, accessory sexual organs, yang deficiency animal model, immunity and so on.

The mechanism for treating the traditional Chinese medicine comprises promoting the no-release, improving the activity of the nos and the cGMP content, inhibiting the p<5 and rhokinases, reducing the deposition of collagen, resisting oxidation, regulating the ion channels and the regulation of the endothelial cells, and the like. In the future, more attention should be paid to the clinical application and basic mechanism of action, and the adverse reactions caused by the treatment of ED with traditional Chinese medicine should be deeply studied in order to achieve the purpose of extensive use of traditional Chinese medicine in the treatment of ED.

**Reference**
Application of Endophytic Fungi to Transformation of Active Components of Medicinal Plants

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Abstract: Endophytic fungi are a class of fungi that are widely present in plants and usually do not cause obvious symptoms of plant tissues. Such fungi can produce abundant secondary metabolites and assist the host to produce certain active substances and promote their accumulation. Endophytic fungi with certain functions have been isolated from various medicinal plants.

Endophytic fungi coexist with the host for a long time and can produce the same active metabolites as the host. In addition, the various enzymes produced by endophytic fungi in the metabolic process can modify known active substances to produce new substances with stronger activity, more stable structure and less toxicity. In the current research, the bulk drug is often used as a substrate to increase the content of certain metabolites in the original plant in the form of fermentation. It can also increase the active substance content by increasing the inducing factor and environmental stress. Studies have shown that although endophytic fungi and plants can produce the same metabolites, their metabolic pathways are different, which provides a new idea for the study of biosynthesis pathways of active substances[1].

With the rapid development of biotechnology, researchers have begun to apply these techniques to the biotransformation of medicinal plants by endophytic fungi. One idea is to select key genes in endophytic fungi and introduce them into engineered bacteria in anticipation of producing specific products. Another idea is to introduce specific genes into endophytic fungi that produce the active metabolite of interest to enhance the expression of certain pathways, and hope to construct highly expressed engineering fungi[2].

In conclusion, endophytic fungal biotransformation is of great significance in expanding medicinal resources and protecting rare medicinal plants.

Key words: Endophytic fungal, Biotransformation, Medicinal plants

References:

Detoxicate regular of gan jiang decoction compatibility maqianzi based on CYP3A4 enzyme

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Abstract

Ganjiang Decoction enhances the activity of CYP3A4 in different compatibility of Strychnos chinensis Maxim. It accelerates the metabolism of the main toxic components of Strychnos chinensis. From the perspective of CYP3A4 enzyme, it explains the main mechanism of Ginger Tang Decoction.

Key words: gan jiang decoction; maqianzi; CYP3A4 enzyme; Nuclear receptor; the regulation of detoxification
Ma Qianzi is effective in treating rheumatism\(^1\). However, modern toxicology\(^2\) experiments have confirmed that Ma Qianzi is a highly toxic drug. Licorice, ginger and Ganjiang Decoction\(^3\) can reduce the toxicity of strychnos. This study was conducted from two perspectives: CYP450 enzyme and its nuclear receptors, to explore the effect of Ganjiang Decoction on CYP3A4 activity in the course of detoxification of brucine.

**Objective**

To study the effects of Ganjiang Decoction on the mRNA and protein expression levels of CYP3A4 and nuclear receptors, and to explore the detoxification mechanism of Ganjiang Decoction on Ma Qianzi.

**Materials and methods**

Rats were randomly divided into 8 groups, which were 5 in each group. The activity of CYP3A4 enzyme was determined by the "Cocktail" probe drug method. The mRNA expression and protein expression of CYP3A4 and nuclear receptors in rat liver microsomes were determined by RT-PCR and Western blot.

**Results and discussion**

For the effect of enzyme activity, the Ma Qianzi + licorice group was significantly different from the other groups\((P<0.01)\). In terms of gene expression, licorice group significantly up-regulated the expression of CYP3A4, PXR and CAR mRNA\((P<0.05)\); Effect on protein content, licorice group, Maqianzi + Licorice group and Ganjiang decoction group induced the contents of CYP3A4 enzyme, PXR and CAR protein \((P<0.05)\). The study explores from the two perspectives of the substance-based CYP450 enzyme and its nuclear receptor, the effects of ganjiang decoction on nuclear receptor and CYP3A4 enzyme in the process of neutralizing strychnos nutrum toxicity were determined by molecular level. Thus explaining the detoxification mechanism of Ganjiang Decoction on Maqianzi.

**References:**


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**Research progress on active ingredients and mechanism of traditional Chinese medicine with sedative and hypnotic effects**

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**Abstract:** Objective: This paper summarizes and analyzes the active ingredients and the mechanism of action of traditional Chinese medicine with sedative and hypnotic effects, and provides a reference for clinical treatment of insomnia.

**Methods:** Based on the bibliomaniacal theory, the Chinese Journal Full-text Database (CNKI) and Pubmedplus subject analysis and intelligent selection and submission system were used to search the literature on the active ingredients and the mechanism of action of Chinese medicines with sedative and hypnotic effects. The search time limit was database. The library will be built until January 2019. At the same time, combined with recent research at home and abroad, 44 kinds of single-flavored traditional Chinese medicines with sedative and hypnotic effects were summarized from the aspects of experimental animals, administration routes, pharmacological effects, active ingredients and mechanism of action.

**Results:** Through literature review, a total of 257 related articles were retrieved, of which 92 was valid. The results show that compared with chemical synthetic drugs, traditional Chinese medicine
has a lot of components, multiple targets, small toxic and side effects, and good curative effect. It is an essential source for the discovery of sedative and hypnotic lead compounds and new drugs. **Conclusions:** At present, there are still many experimental methods in the experimental research, which shows that the characteristics of traditional Chinese medicine are few, the active ingredients of traditional Chinese medicine are not clear, and the mechanism of action is scattered. This paper provides a theoretical basis for the systematic study of novel drugs for the sedative and hypnotic effects of traditional Chinese medicine. **Key words:** Traditional Chinese medicine, sedative and hypnotic effects, active ingredients, mechanism

**Simultaneous determination of four main kinds of components Plantaginis Semen by RP-HPLC**

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**Abstract**

**Objection and Meanings:** To establish a high-performance liquid chromatography method for simultaneous determination of four main kinds of components including geniposidic acid[1], plantagoguanadinic acid[2], verbascoside and isoverbascoside[3] in Plantaginis Semen.

**Methods:** The Dikma Diamsnil C18(250 mm×4.6 mm,5 μm) column was used with the mobile phase of methanol(A)-0.05%Formic acid(B) for gradient elution(0~30 min,5%~90%A), at a flow rate of 1.0 mL·min⁻¹, The detection wavelength was 205 nm, and the column temperature was at 25 °C.

**Results:** The geniposidic acid, plantagoguanadinic acid, verbascoside and isoverbascoside were well separated; the quality and peak area of each component in the range of detection revealed a good linear relationship(r > 0.9998). The average recoveries(n=6) were 98.17%(RSD= 3.55%), 104.36%(RSD= 3.77%), 98.97%(RSD= 4.35%) and 97.63%(RSD= 3.12%).

**Conclusions:** The high-performance liquid chromatography method developed was successfully used to analyse four main effective components in Plantaginis Semen.

**Key words:** Plantaginis Semen, RP-HPLC, Geniposidic acid, Plantagoguanadinic acid, Verbascoside, Isoverbascoside

**References:**


**Relationship between Various Biochemical Markers and the Stability of Atherosclerotic Plaque**

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Abstract

Cardiovascular disease has become the first killer which threatens human health, which causes plaque rupture due to unstable atherosclerotic plaque, leading to thrombosis. There are many causes leading to atherosclerotic plaque instability, including many inflammatory cells, cytokines, lipid and other biochemical markers. We will review the relationship between various biochemical markers and the stability of atherosclerotic plaque. It provides a theoretical basis for early identification of unstable atherosclerosis plaque and the pathogenesis of the development of cardiovascular disease.

Key words: cardiovascular, atherosclerotic plaques, stability, biochemical marker

Cardiovascular diseases are chronic inflammatory diseases with high morbidity and mortality, which seriously threaten human health[1]. The rupture of unstable atherosclerotic plaque and thrombosis are the main causes of acute cardiovascular diseases, such as myocardial infarction, heart disease, peripheral vascular diseases and stroke[2]. Unstable atherosclerotic plaque is characterized by intraplaque neovascularization, small calcified nodules, a large necrotic lipid core by a thin layer of fibrous cap and some inflammatory cells, including macrophages, lymphocytes infiltration leading to the formation of thrombus[3]. Many studies have shown that accumulation of lipid in the arterial wall cause hemal wall thickening and endothelial function disorder, vascular smooth muscle cell apoptosis, leading to less collagen synthesis, inflammatory cell infiltration and degradation of extracellular matrix[4] factors such as great contact and the stability of atherosclerotic plaques. Therefore, confirming the origin and development of cardiovascular disease pathological mechanism provides a theoretical basis for the treatment and prevention of cardiovascular diseases.

Inflammation and its associated biochemical markers

In atherosclerotic plaque, the immune system is activated, a large number of immune cells were found in pathological lesions such as monocytes, macrophages, lymphocytes and neutrophils, etc., and these cells release factor plays an important role in the transformation process. Plaque stability was assessed by size of necrotic area, thickness of fibrous cap, content of collagen and content of smooth muscle cells, inflammatory cells and inflammatory cytokines[5]. Th1 cells can recognize low-density lipoprotein and produce inflammatory factors such as interferon-gamma (IFN-γ), tumor necrosis factor-alpha (TNF-α), interleukin-6 (IL-6) and interleukin-1 beta (IL-1β). IFN-γ inhibits collagen synthesis and leads to smooth muscle cell apoptosis, and can induce the production of IL-18, thus accelerating the occurrence of inflammation [6]. Th2 cytokines, such as anti-inflammatory cytokines IL-4 and IL-13, can selectively activate the specific secretion of anti-inflammatory cytokines TGF-β, IL-10, PTX3 and other anti-inflammatory cytokines, which can alleviate the inflammatory response and prevent the rupture of atherosclerotic plaques.

Lipid metabolism and its biochemical markers

During the development of atherosclerosis, lipid metabolism disorder is an important cause of unstable atherosclerosis plaque. The presence of high plasma levels of cholesterol, lipids and fatty acids in the body can aggravate the inflammatory response and stimulate the proliferation of inflammatory macrophages and the formation of foam cells. High levels of low-density lipoprotein cholesterol (LDL-C), triglyceride (TG), total cholesterol (TC), and low levels of high-density lipoprotein cholesterol (HDL-C) are believed to be closely related to the occurrence and progression of atherosclerosis in humans[7]. Macrophages recognize and absorb oxLDL through toll-like receptors (TLRs) and various scavenger receptors (such as CD36, SR-A1, SR-B1, LOX-1 and LRP-1[8], forming foam cells. The formation of foam cells on vascular intima is an important indicator of atherosclerosis.

Other biochemical markers

Inflammatory macrophages can secrete matrix metalloproteinases (MMPs), such as MMP2 and MMP9, MMPs are proteolytic activity and can degrade extracellular matrix (ECM), cause the thinning of fibrous cap. MMPs have been proven in the atherosclerotic plaque are related to the stability of atherosclerotic plaques. Tissue metalloproteinase inhibitor 1 (TIMP-1) can inhibit the degradation of ECM by MMPs and has a protective effect on atherosclerotic plaque [9].

References:

Abstract: Membranous glomerulonephritis (MGN) is one of the common pathological types of adult nephrotic syndrome. It is a progressive kidney injury which is characterized as interstitial inflammation, fibrosis and glomerular hypertrophy. This article summarizes the mechanism of Chinese medicine treatment of MGN at home and abroad for more than a decade. The progress of traditional Chinese medicine in the treatment of MGN has been collated, which provides a scientific reference for the development of traditional Chinese medicine treatment.

Key word: Membranous glomerulonephritis, mechanism, TCM

Objection and Meaning: Membranous glomerulonephritis (MGN) is a pathological manifestation of chronic kidney disease. Currently, the common immunosuppressant agents are mainly chemically synthesized drugs or biological agents. The main fault is the lack of targeting and specificity. Therefore, finding active substances which can treat MGN with clear action and low toxic and side effects from TCM has become a scientific problem urgently. This article summarizes
the research of TCM in the treatment of Membranous glomerulonephritis by collating the literature and provides a basis for the clinical treatment of MGN in the future.

**Method:** Through the search of China Knowledge Network, PubMed and other literature libraries, TCM treatment of Membranous glomerulonephritis and its mechanisms were studied.

**Result and discussion:**

Membranous glomerulonephritis (MGN) is the main cause of adult nephrotic syndrome, characterized by deposition of immune complexes under glomerular epithelial cells, loss and damage of podocyte foot processes, and thickening of glomerular basement membrane. Immune complex deposits include immunoglobulins, complement components (C3 and C5b-9), and autoantigens [1,2]. Podocyte injury is regard as connecting the development of proteinuria. In MGN patients, podocyte injury caused by MAC C5b-9 leads to severe proteinuria and hypoproteinemia [3]. Renal fibrosis is the ultimate pathway for almost all chronic kidney diseases [4]. In the late stages of MGN, renal fibrosis is caused by the excess accumulation of extracellular matrix, which is an important indicator of MGN. Modern therapy of MGN is often accompanied by other complications. While traditional the active compounds of traditional Chinese medicine have a good application prospect in the treatment of MGN.

**Treatment mechanism of one kind of Chinese medicine:** At present, there are few Chinese medicines for the treatment of MGN. Guxiang Huang et al [5] found that *Paridis rhizoma* can down-regulate the expression of fibronectin FN mRNA and NF-κB protein and mRNA in renal tissue of MN rats, reduce the deposition of immune complexes and inhibit the inflammatory response of MN rats. Ling Cao and Yuxia Cheng [6] have discovered that *ligustrazine* can regulate the Bcl-2 /Bax pathway, thereby reducing the apoptosis of renal cells in MN rats and protecting the kidneys. Jingjing Song [7] showed that *cordyceps militaris* can inhibit oxidative damage and reduce inflammatory cytokine levels by restoring normal expression of NF-κB.

**Treatment mechanism of the extract of Traditional Chinese medicine:** Extracting active ingredients from traditional Chinese medicine and studying its therapeutic effect on MGN is conducive to deepening the efficacy. ZhaoHong Chen [8] found that triptolide can reduce proteinuria in PHN rats, protect podocytes from C5b-9-mediated damage, and reduce circulating IgG production in PHN rats. In addition, Ying Zhou [9] found that triptolide can also inhibit the degradation of IκBa, down-regulate the expression of NF-κBp65 mRNA and protein, and inhibit the inflammatory process in MGN rats. TianTian Li et al [10] studied that artemisinin analogue SM934 can reduce renal tubulointerstitial fibrosis in PHN rats by down-regulating TGF-β1/Smad signaling pathway. Brijesh Sutariya [11] extracted the betulinic acid BA from the leaves of Indian plant Syzygium cumini (L.) Skeels and proved that it has anti-inflammatory and anti-oxidative activities, and can effectively improve the condition of experimental PHN rats by regulating Nrf2 / NF-κB pathway.

**Treatment mechanism of Compound Chinese medicine:** In recent years, the research on compound Chinese medicine for the treatment of MGN has become more thorough. The research found that Yishen Tongluo can up-regulate the expression levels of Nephrin and Podocin mRNA, inhibit the degradation of the cytoskeleton-associated proteins ezrin and synaptopodin, maintain the normal structure of podocytes and the integrity of glomerular filtration barrier function [12,13]. Xin Liu [14] through experimental showed that Jiawei Shengsan can down-regulate the expression of CXCL16. FeRn protein and mRNA in renal tissue of MGN rats, and the effect increases with the increase of dose. When a certain dose is reached, the effect is no longer obvious. Du Fu et al [15] found that Jiawei shengsan can down-regulate mitochondrial ROS mRNA expression in kidney tissue, inhibit podocyte apoptosis and repair damaged podocytes.

**Conclusion:** In a word, it has been found that TCM has a very good therapeutic effect on kidney disease, especially membranous glomerulonephritis, and TCM and its extracts are more targeted and safe than immunosuppressants.

**References**


Study On Mechnism Of The Total Alkaloid Of Corydalis Rhizoma In Treating Chronic Cerebral Hypoperfusion

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Abstract

Chronic cerebral hypoperfusion, also known as chronic cerebral ischemia, is caused by chronic cerebral blood flow insufficiency. A large number of studies have shown that the decrease of cerebral blood flow caused by chronic hypoperfusion brain injury is related to the decrease of cognitive function, and can lead to the onset of cognitive impairment and the development of vascular dementia. corydalis rhizoma is a dry tuber of corydalis yanhusuo W. T. Wang, which has
the role of expanding coronary vessels and improving coronary blood flow. This study discusses the mechanism of the total alkaloid of corydalis rhizoma in treating chronic cerebral hypoperfusion.

**Key words:** total alkaloid of Yan Hu; chronic cerebral hypoperfusion; cognitive function

Chronic hypoperfusion is a pathological state of chronic ischemic nervous system damage caused by cerebral artery stenosis caused by hypertension and cerebral arteriosclerosis. A large number of studies have found that although hypoperfusion does not cause massive cerebral infarction, it can lead to long-term cerebral ischemia and hypoxia, resulting in brain nerve cell injury. Bilateral common carotid artery occlusion can effectively simulate chronic cerebral hypoperfusion injury in rats. It's a common modeling method in basic experimental research.

Total alkaloids of corydalis rhizoma are effective parts of total alkaloids extracted and purified from tubers of corydalis rhizoma. It has been found that total alkaloids of corydalis rhizoma can prevent acute cerebral ischemia-reperfusion injury in rats and alleviate neurological dysfunction and pathological damage of brain tissue in rats. In this study, we established the animal model of permanent bilateral common carotid artery occlusion and replicated chronic hypoperfusion rats, given the total alkaloids of corydalis rhizoma. The cognitive function of rats was detected by Morris water maze test. HE body staining were used to observe morphological change.

**Objective**
To study the mechanism of the total alkaloid of corydalis rhizoma in treating chronic cerebral hypoperfusion.

**Materials and methods**

Sixty male Wistar rats were randomly divided into three groups: sham group, total alkaloid of corydalis rhizoma group and model group. Establish animal models of chronic cerebral hypoperfusion by permanent bilateral common carotid artery occlusion. After 4 weeks of molding, the drug was administered continuously for 4 weeks. Morris water maze test was used to examine the cognitive function. HE body staining were used to observe morphological change.

**Results and discussion**
The results of Morris water maze test showed that the escape latency in the model group was longer than the sham group ($P<0.01$), it’s suggested that the learning ability of chronic cerebral hypoperfusion rats is decreased. Compared with the model group, escape latency of rats in total alkaloid of corydalis rhizoma group obviously shorten ($P<0.01$). It’s suggested that total alkaloids of corydalis rhizoma can reduce the escape latency of chronic cerebral hypoperfusion rats and improve the learning and memory ability of rats. HE staining showed that in the sham group, the neurons were arranged neatly, the cell bodies were large and the cell membrane was intact. The neuron arrangement in the model group was disordered and lacking. Compared with the model group, the situation of the treatment group was alleviated.

Many reports have shown that Chinese herbal medicine plays an important role in relieving dementia symptoms. Corydalis is a traditional Chinese medicine in China. Its main active components are alkaloids. Many components such as violinine and L-tetrahydroberberine have been reported to have effects on cardiovascular and cerebrovascular diseases. The treatment of traditional Chinese medicine is a comprehensive effect of multi-target and single component superposition. In recent years, the research on the single component of Corydalis B has gradually increased, but the research on the effective parts of total alkaloids of corydalis is very few. Therefore, the total alkaloids of corydalis rhizoma were selected as the research object to explore the therapeutic effect of total alkaloids on chronic hypoperfusion injury of the brain. The results also confirmed this view.

Thus, the total alkaloid of corydalis rhizoma has the protective effects on cognitive function in rats induced by chronic cerebral hypoperfusion.

**References**

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The Effect of Semen Ziziphi Spinosa on C-Fos Protein Expression in BLA Neurons of Rats with State Anxiety

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Abstract:  
The c-Fos gene in neurons is an immediate early gene, which is usually in a state of low expression or non-expression. However, the c-Fos gene is rapidly transcribed, translated and expressed in the nucleus of the corresponding active nerve cells after stimulation. The expression level of c-Fos protein can be used as a marker of neuronal excitability.  
Key words: Semen Ziziphi Spinosa; c-Fos protein; Anxiety; Amygdala.  
Objective: To observe the effect of Semen Ziziphi Spinosa on c-Fos protein expression in BLA neurons of anxious rats.  
Materials and methods:  
Male SD rats were selected and randomly divided into blank control group, model control group and Semen Ziziphi Spinosa group after 7 days of adaptation to the environment, 10 rats per group. Given Semen Ziziphi Spinosa group rats Semen Ziziphi Spinosa Decoction by gavage according to the dose of 17.5g/kg, model control group was given the same volume of saline. 30 minutes after administration, model control group and Semen Ziziphi Spinosa group were subjected to open field test, 1 times daily for consecutive 7 days. During the period, no treatment was done in the blank control group. After the last open field test, making brain tissue section, measured the c-Fos protein expression¹ in the BLA region of three groups by immunohistochemistry technique.  
Results:  
The experimental results show that compared with the blank control group, the c-Fos protein expression in BLA region of model group increased, there was a significant difference between the two groups (p<0.01); compared with the model group, the c-Fos protein expression in BLA region of Semen Ziziphi Spinosa group decreased, there was a significant difference between the two groups (p<0.05).  
Conclusions:  
Semen Ziziphi Spinosa has the effect of inhibit the expression of c-Fos protein in BLA neurons of anxious rats.  
References:  

Influence of sinisan active ingredients on cytokine changes in the sleep disorders rat hypothalamus and cortex

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Abstract

Sinisan has been used for treatment of sleep disorders in clinic. However, the cytokine changes of sinisan and mechanism in sleep disorders are unclear.

Objective

In order to study the antagonistic effect and mechanism of the Sinisan active ingredient on sleep disorder induced by chronic emotional stress in rats.

Methods

48 male SD rats were randomly divided into group ES (saline), group C (saline), group DZP (Diazepam 1mg/kg), group SNS (Sinisan active ingredients 450mg/kg), 14 rats per group. Establish an empty bottle stimulation model for 14 days. Then rats were sacrificed and quickly collected the brain. Half rats were prepared whole brain, the other rats were prepared hypothalamus and cortex to determine sleep related cytokines including TNF-α, IL-4 level’s changes to study the effect of the sinisan active ingredients on the sleep disorders rats caused by chronic emotional stress.

Results

The TNF-α level in the whole brain increased in both group DZP and group SNS (P<0.05, P<0.05); TNF-α level increased in the hypothalamus of group SNS (P<0.05); IL-4 level decreased in the cortex in both positive drug group and sinisan active ingredients group (P<0.05, P<0.05).

Conclusion:

Sinisan active ingredient has a therapeutic effect on the sleep disorders that was induced by chronic emotional stress, and the mechanism may be relative with the cytokine level changes in the different region of rat’s brain.

Key words: Cytokine; Stress; Sleep disorders

Reference


Effect of Zhushaanshen Wan on Awakening-Sleep Time and Sleep Phase in the Process of Conditional Fear Memory Regression in Rats

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Abstract

Recent studies have shown that ZhushaAnshen Pill has the effect of improving sleep and treating a variety of mental illnesses, but there are few reports about its antagonistic effect on fear. Based on the description of cortical electroencephalogram (EEG) of rats during the process of fear subsidence, we conducted drug intervention of ZhushaAnshen Pill on experimental animals to explore the effect of ZhushaAnshen Pill on awakening-sleeping time of conditioned fear rats. Through this research, it provides experimental basis for the application of ZhushaAnshen Pill in the treatment of sleep disorders caused by fear, and lays a scientific foundation for the development and improvement of therapeutic drugs for sleep disorders caused by fear.

Key words: conditioned fear, sleep disorder, ZhushaAnshen pill

Fear is a basic feeling of organisms, which is closely related to the evolution of organisms. It plays an important role in human survival and can stimulate a series of defense mechanisms. At present, people's research on the processing of negative emotions in the brain mainly focuses on the nervous mechanism of fear. Studies have shown that Hippocampus[1], Amygdala, Lateral-habenular...
nucleus, LHb, sub-regional subregion\cite{2}, Periaqueductal gray, PAG\cite{3} and other subcortical structures and Anterior cingulatel Cortex, ACC are mainly involved in the nucleus.

Based on the modern research of conditioned fear and sleep, this paper explores the relationship between conditioned fear acquisition and recession and awakening-sleep. The other part is based on the traditional efficacy of ZhushaAnshen Pill and the clinical experimental study of ZhushaAnshen Pill in the treatment of conditioned fear, according to the neurobiology of fear memory. To explore the relationship between conditional fear acquisition, recession and awakening-sleep in ZhushaAnshen Pill.

**Objective**

To investigate the effects of Zhusha Anshen Pill on wake-sleep time and sleep phase in the process of conditional fear memory regression in rats through experimental studies.

**Materials and methods**

SD rats, male, weighing 200g±20g, SPF grade (provided by Experimental Animal Center of Heilongjiang University of Traditional Chinese Medicine, license number: SCXK 2018-003).

After the end of the 7-day experiment, the experimental animals were implanted with cortical EEG and EMG electrodes. After the operation, the experimental animals were housed in a single cage and recovered for 4 days. After recovery, the experimental animals were placed in a conditional fear stimulation box for conditional fear model replication. The day of fear acquisition was recorded as the first day of the experiment. On the 2nd-7th day, each group of experimental animals was intragastrically administered at a time of 7:00-7:30. On the 2nd to 7th day after the end of the gavage, each group of experimental animals was placed in a conditional fear stimulation box at 8:00-11:00 for conditional fear regression.

**Results and discussion**

Compared with the blank group of experimental animals, the Wake time increased in the experimental group from day 2 to day 4, with significant difference ($p<0.05$); compared with the model group experimental animals, the experimental group of experimental animals Wake time decreased significantly on days 4 and 5, with significant differences ($p<0.05$)

Compared with the blank group of experimental animals, the percentage of Wake time increased from day 2 to day 4 in the model group, with a significant difference ($p<0.01$); the percentage of Wake time increased on the fifth day, with significant Sexual differences ($p<0.05$); compared with the experimental animals in the model group, the percentage of Wake time decreased significantly on the 4th and 5th day of the conditional fear regression in the experimental group, with significant difference ($p<0.05$).

**References:**


**Anti-anxiety Effects in Ovariectomized Mice of Danggui Buxue Tang, a Chinese Herbal Decoction**

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Objective Perimenopause is one of critical period in a woman's life and affects the quality of late life of a woman. Increased anxiety level is atypical psychiatric symptom of perimenopause, which is also the risk factor for perimenopausal hot flashes. Lower levels of estrogen have been linked to anxietyof perimenopause. Hormone replacement therapy can be used to alleviate menopausal symptoms, but it can cause anincreaseinbreast cancer, heart disease, stroke. DangguiBuxue Tang (DBT), a traditional Chinese herb medicine preparation, has been used to improve menopausal symptoms such as psychiatric and Vascular symptoms and exert potential estrogenic effect. However, limited information is available regarding the anti-anxiety effect of DBT during perimenopause. The present study was performed to explore the effect of DBT on anxiety-like behavior and hormone level of ovariecetomized mice.

Methods Sixty mice were randomly divided into 2 groups: sham-operated group (n=12) and ovariecetomized group (n=48). The ovariecetomized mice were randomly placed into 4 groups, treated with physiological saline or DBT in the dose of 2.5, 10, 40 g/kg body mass once a day for 7 days (n=12 in each group), respectively. The percentage of open-arm time (OT) and open-arm entries (OE) were tested by elevated plus maze. Moreover, estradiol (E2) and corticosterone (CORT) levels in the blood serum were detected by ELISA kits. Finally, uterus wet weight and uterine coefficient were measured.

Results Compared with sham-operated group, OT, OE, the uterine coefficient and serum E2 content in ovariecetomized group were significantly lower, and the CORT content was significantly higher. DBT at dose of 2.5, 10, 40 g/kg all exerted increased uterine coefficient and serum E2 level, and decreased CORT level as compared to ovariecetomized group, but only DBT at dose of 40g/kg produced significantly increased OT and OE.

Conclusion These findings indicate that DBT can improve the increased anxiety-like behavior in ovariecetomized mice by increasing level of serum E2 and decreasing level of serum CORT.

Key Words: DangguiBuxue Tang; Anxiety; Ovariecetomized; Estradiol; Corticosterone

References
Based On Illumina Sequencing Of Huangqiliuyi Decoction Treating Diabetes Mellitus Research

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Abstract

Huangqiliuyi Decoction had been found that it has a certain therapeutic effect on type II diabetes in the previous study. However the mechanism of Huangqiliuyi Decoction on type II diabetes is still obscure. Therefore, in this study, Illumina sequencing platform was applied in sequencing rat pancreas, counting expression of target points, analysising expression differences among blank group, model group and Huangqiliuyi Decoction group, aims to study the mechanism of Huangqiliuyi Decoction. The results showed that Huangqiliuyi Decoction may play a therapeutic role in the treatment of type II diabetes mellitus through four metabolic pathways, namely environmental information processing, cellular process, organisam system and human diseases.

Key Words: Type II diabetes mellitus; Huangqiliuyi Decoction; Illuminasequencing; transcriptomics

Diabetes mellitus is actually a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. It seriously affected people’s healthy life because of its long duration, comlexity and difficult to cure. Chinese medicine and traditional Chinese medicine compound has played a therapeutic role in diabetes, such as Ginseng, Astragalus, Rehmannia, Licorice, etc. Astragalus polysaccharides can inhibit the activity of activated transcription factors caused by endoplasmic reticulum pressure, increase AMPK phosphorylation levels in hepatic tissue of type II diabetic rats, reduce the overexpression of protein tyrosine phosphatase 1B (PTP1B), in order to improve insulin sensitivity in rats, increase tolerance of KK-Ay rats to hyperglycemia and oral glucose. Jiang B, etc. found that astragalside IV can induce TNF-α secretion, reduce lipolysis, improve the tolerance of pancreatic islets in the study of 3T3-L1 adipocytes. In addition, astragalside IV can act on glycogen regulating enzymes, which play a hypoglycemic effect. Honda K, etc. prove that the total flavonoids of Licorice significantly reduced plasma insulin concentration, so it was speculated that total flavonoids can improve insulin resistance. Huangqiliuyi Decoction is mainly composed by astragalus and Glycyrrhiza, has benefiting qi for promoting production of fluid and many other effects. Transcriptome refers to the sum of all the genes expressed by a particular cell in a functional state, representing the identity and expression level of each gene. Transcriptome sequencing can comprehensively reveal the expression of the global gene of a biological individual in a given tissue and at a given time happening. Therefore, this study focuses on finding out the regulation mechanism of Huangqiliuyi Decoction on the treatment of type II diabetes mellitus based on Illumina sequencing platform.

Objective

The expression differences among blank group, model group and Huangqi liuyi decoction group were analyzed to explore the therapeutic effect of huangqi liuyi decoction on type 2 diabetes. Studies have shown that huangqi liuyi decoction can significantly improve fasting blood glucose and glycosylated hemoglobin in rats with type 2 diabetes, providing a new idea for the treatment of type 2 diabetes.

Materials and methods

Ethl carbamate, Citric Acid and Sodium Citrate were from Sinopharm Chemical Reagent Co., Ltd (Shanghai, China). 0.9 sodium chloride injection was from Harbin Pharmaceutical Group Sanchine Pharmaceuticals (Harbin, China). Metformin HCL Tablets were from Beijing Jingfeng Pharmaceutical Group Co., Ltd (Beijing, China). STZ was purchased from Sigma Company (The United States). The Astragalus prepared drug in pieces and the Glycyrrhiza uralensis Fisch prepared drug in pieces were purchased from Qikangbaixing Pharmacy. The blood sugar test papers were
from Germany Roche Diagnostics Ltd. NORUDIA HbA1c was from Nanjing Jiancheng Bioengineering Institute (Nanjing, China).

Rats Modeling 40 SPF male mice, 6-8 weeks of age, 180-220 g of weight, were from Heilongjiang University of Traditional Chinese Medicine drug safety evaluation center, license number SCXK (Hei) 2013-004. Animals were housed in SPF animal laboratory, laboratory temperature (22°C - 24°C), humidity (45%-55%), daylight 12h, animal sub-cage feeding (10/cage), free for drinking water. All mice used in this study were cared for in accordance with the Guidelines for the Care and Use of Laboratory Animals published by the United States National Institutes of Health (NIH Publication 85-23, 1996). 40 rats were fed for 7 days, and 10 rats were randomly selected as the blank control group. The blank control group was given the normal diet and the other 30 rats were given high glucose and high fat diet for three weeks. After 3 weeks, 30 rats were fasted for 12 hours, after that, we injected intraperitoneal injection of citric acid-sodium citrate buffer (pH 4.5) with STZ (40 mg/kg), and then placed the STZ ice bath and injected rapidly to avoid drug degradation. The blank control group was injected intraperitoneally with equal doses of citric acid-sodium citrate buffer. The blood glucose was measured at 12h after the last administration for 72h, and the blood glucose \( \geq 16.7 \text{ mmol·L}^{-1} \) was identified as diabetic rats. 26 rats were successfully established.

Rats Grouping We randomly taking 20 diabetic rats and randomly dividing them into two groups. Divided into model control group, Huangqiliuyi Decoction group. The control group and model control group were given normal saline 10ml/kg/d on the 7th day after modeling. Huangqiliuyi Decoction group was treated with different dose of drugs on the 7th day according to the conversion of the weight of men-rats, feeding Huangqiliuyi Decoction (crude drug 12.60g/kg), 1 time/d; dose = body dose \( \times 0.018 \times 20 \). Rats were weighed once a week and adjusted for gavage by weight for 4 weeks. Preparation of Huangqiliuyi Decoction: take Astragalus Pieces 600g and licorice Pieces 100g, add water 2L, soak 2h, boiling 1h, filtration, recovery of filtrate; dregs add water 2L, boiling 0.5h, filtration, the filtrates were combined and concentrated under reduced pressure to 700mL. The liquid is placed in a brown bottle and sealed in a 4°C refrigerator.

In this study, we selected 4 weeks after the experiment blank group, model group, Huangqiliuyi Decoction group of rat pancreas as a transcription group sequencing experimental material. Rats were fasted for 12h after the last administration and intraperitoneally anesthetized with 20% urethane solution. After anesthesia, fast pancreatic tissue, aluminum foil wrapped and quickly frozen in liquid nitrogen, and then frozen in the -80°C refrigerator.

RNA was extracted from the samples using the tianenze column animal RNAout kit (CAT#: 71201). The total RNA integrity of the obtained RNA was detected by 1.5% agarose gel electrophoresis, indicating that the RNA band was intact and no degradation. Quantitative detection of RNA using UV spectrophotometer to achieve the required concentration, and A260/A280 greater than 1.8.

The first step was the purification of the mRNA using Illumina's TruSeq Stranded mRNA LT Sample Prep Kit. For the poly A structure specific to eukaryotic mRNA, mRNA was captured using oligo dT beads. The second step of reverse transcription and cDNA library construction was performed using Illumina's TruSeq Stranded mRNA LT Sample Prep Kit. The third step is the construction of the cDNA library, first of all is adding A to 3’, in which the 3’ end of the DNA will be added alone with an A base to prevent DNA fragments from self, while ensuring DNA and 3’ has a prominent T-base sequencing linker, followed by a specific label of the link, this process is to allow DNA to be finally hybridized to Flow Cell.

First take 1μL cDNA library, using the Agilent Bioanalyzer 2100 on the construction of the library for quality inspection. Quantitative analysis of the library was performed on the Promega QuantFluor using the Quant-iT Picogreen dsDNA Assay Kit. Sequencing of transcriptome was performed on qualified cDNA libraries. Sequencing was performed by Shanghai Pisinuo Biotechnology Co., Ltd., and the 2x150bp double-ended sequencing was performed using the Illumina NextSeq 500 High Output Kit (300 cycles) sequencing platform. The sequenced samples were rat pancreatic RNA-Seq libraries.

Results and discussion
It can be seen from the experimental results that the significant differences in expression genes in the model group compared with the blank group were mainly concentrated in Metabolism, Organismal Systems and Human Diseases. The high dose group of Huangqiliuyi Decoction in compared with the blank group, the significant differences in expression genes were mainly focused on the assortment of Environmental Information Processing, Cellular Processes, Organismal Systems, Human Diseases; and the significantly differentially expressed genes between Huangqiliuyi Decoction group and the model group focus on the Metabolism, Environmental Information Processing, Cellular Processes, Organismal Systems, Human Diseases. It is speculated that Huangqiliuyi Decoction may be in the Environmental Information Processing, Cellular Processes, Organismal Systems, Human Diseases on the four metabolic pathways on type II diabetes to the therapeutic effect. In the Metabolism classification, the overall trend of the high dose of Huangqiliuyi Decoction group was between the blank group and the model group, indicating that Huangqiliuyi Decoction could improve the metabolic pathway and thus play a role in the treatment of type II diabetes mellitus.

References

Urine metabonomics study on acute gouty arthritis treated by Dioscorea Nipponica Makino

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Objective and significance
Dioscorea Nipponica Makino (DNM), as a traditional Chinese herbal medicine, has a history of application in China for thousands of years. Clinically used for rheumatic rickets, joint swelling, pain and numbness[1]. Modern research has found that the radicular of DNM mainly composed of steroidal saponins, which have anti-inflammatory, immune-regulating, uric acid-lowering and anti-tumor effects. Our previous research showed that the extract of Chuanshanlong has therapeutic effects on gouty arthritis and hyperuricemia[2-6].

Although the efficacy of traditional Chinese medicine is exact, but multi-component, multi-target, multi-channel characteristics, the effective components and mechanism of action are not very clear, and metabolomics is one of the most important omics techniques in the post-genomics era. It is also the most important system biology technology. With the help of metabolomics technology, it helps the mechanism of action of traditional Chinese medicines and the intrinsic regularization of prescriptions to treat diseases. Therefore, this study investigated the urine metabolomics of rats with gouty arthritis and the related potential biomarkers and related metabolic pathways, which helps to elucidate the pathological mechanism of acute gouty arthritis.

Methods
40 SD rats were randomly divided into blank control group (k), DNM extract group (g), MSU model group (m), and DNM extract intervention group (g+m), with 10 rats in each group. The blank control group and the MSU model group were given an equal volume of physiological saline, and the DNM extract group and the model administration group were intragastrically administered with the extract of DNM. The monosodium urate crystal suspension was used to induce the rat model of acute gouty arthritis. The potential biomarkers and metabolic pathways involving the
protective effect of DMN on acute gouty arthritis were identified using the UPLC/TOF-MS coupled with pattern recognition technique.

**Results**

We compared the metabolic changes of the normal group of DMN extract with the model group and obtained 12 common biomarkers: sarcosine, dimethylglycine, deoxyctydine, uric acid, 5- Serotonin, L-cystathionine, 4-pyridinic acid, deoxyuridine, melatonin, 5-methoxytryptamine, fumaric acid, cytidine.

By comparing the ionic strength of the differential markers, it was found that the 12 markers of sarcosine, dimethylglycine, deoxyctydine and uric acid in the normal group were down-regulated in the normal group; 10 markers of dimethylglycine, sarcosine, uric acid, serotonin, L-cystathion, melatonin, 4-pyridinic acid, deoxyuridine, 5-methoxytryptamine, and cytidine in rats. The substance was up-regulated, and the two markers of deoxyctydine and fumaric acid were down-regulated; the extract of DMN on sarcosine, uric acid, L-cystathion, 4-pyridinic acid, deoxyuridine, 5-methoxy The 7 markers of leucine and cytidine all showed a tendency to correct abnormal expression. The most important metabolic pathways associated with gouty arthritis are cysteine and methionine metabolism and tryptophan metabolism.

**Discussion**

The extract of DMN may be through the significant up-regulation of L-cystathion, promote the metabolism of cysteine and methionine, and decompose L-cystathion, which plays an anti-inflammatory role [7-11]. Up-regulation of serotonin and melatonin promotes the metabolism of tryptophan pathway, and finally synthesizes melatonin to slow down inflammation, improve immunity, restore the body to equilibrium, and achieve the role of prevention and treatment of acute gouty arthritis. Therefore, finding the mechanism of action against acute gouty arthritis through relevant targets provides favorable information for modern medical treatment of acute gouty arthritis and alleviates the suffering of patients. However, after administration of normal rats, all metabolites showed a trend opposite to that of the blank control group. This may be due to changes in the proportion of endogenous small molecule metabolites in normal rats after administration of the drug, and the yin and yang imbalance of the body.

**Key words:** Dioscorea Nipponica Makino; acute gouty arthritis; urine metabolomics; UPLC-TOF-MS

**References:**


Inhibitory effect of artelinic acid-choline derivatis liposome on mouse breast cancer

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Abstract
The ADLs were uniformly distributed in circular shape by transmission electron microscopy. The average particle size measured by the particle size potential analyzer was (146.4±1.8) nm, and the potential was (40.87±0.86) mV. MTT test results The results showed that the cytotoxic effect of DHA-SOL group on 4T1 was greater than that of ADLs group, followed by AA-SOL group; The volumetric results showed that compared with the blank liposome group, the three preparation groups could inhibit tumor growth (P<0.01), and the inhibition rate of tumors in the ADLs group was greater than that in the DHA-SOL group and the AA-SOL group (P<0.05).

Key words: Artemisinin; artelinic acid; choline; liposomes; anticancer

Artemisinin and its derivatives have always appeared as first-line drugs for the treatment of malaria, playing an irreplaceable role in the treatment of malaria, saving countless lives. With the deepening of research on artesimin and its derivatives, it has been found to have a good anti-tumor effect. Choline kinase (ChKα) is the initial enzyme in choline metabolism, which catalyzes the phosphorylation of choline into two abundant membrane phospholipids, namely phosphatidylcholine and sphingomyelin. Xiong et al believe that the metabolic disorder of choline is an important marker of cancer cells. Abnormal choline metabolism has been reported in breast cancer, lung cancer, colorectal cancer, prostate cancer and bladder cancer. We can induce tumor cell apoptosis by selectively inhibiting excessive expression of ChKα in cancer cells. Therefore, ChKα, which has attracted widespread attention, has become an important target for anticancer treatment that can de novo block the choline synthesis route. The new anticancer drug dosage form using liposome as a carrier has the advantages of fast absorption by phagocytic cells, thereby improving the therapeutic effect of the drug, alleviating the allergic reaction and reducing the toxicity. Based on the above considerations, liposomes of artemether-choline derivatives were prepared and targeted to ChKα, so that the drug accumulated in tumor cells, in order to achieve better anti-tumor effect. In this paper, the activity of anti-mouse breast cancer 4T1 cells in vitro and in vitro of ADLs group was studied by using dihydroartemisinin solution group, arthenidate acid solution group and blank liposome group as control.

Objective

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To prepare the artelinic acid-choline derivative complex liposomes (ADLs) and evaluate their inhibitive effect on breast cancer in vitro and in vivo.

Materials and methods

The artelinic acid-choline derivative complex liposomes were prepared by thin-film hydration method. The morphology of ADLs was characterized by transmission electron microscopy, and the particle size and zeta potential of ADLs were determined by particle size and potential analyzer. The cytotoxicity of ADLs to breast cancer 4T1 cells (inhibition rate and IC50 as indicators) was evaluated by MTT assay using the dihydroartemisinin solution (DHA-SOL group), the artelinic acid solution (AA-SOL group) and the blank liposome (control group) as the controls. The in vivo antitumor activity of ADLs was evaluated by observing the tumor growth volume, mouse body weight, tumor inhibition rate after four consecutive times of administration.

Results and discussion

Nowadays, domestic researchers believe that the anti-tumor mechanism of artemisinin derivatives mainly includes inhibiting the formation of tumor blood vessels, blocking the growth cycle of tumor cells, and changing the response of hormones. Studies suggest that epithelial-mesenchymal transition (EMT) of cancer cells is closely related to cancer metastasis. DHA can inhibit EMT and metastasis of breast cancer cells, and its mechanism may be related to protein kinase B signaling pathway. At present, there are relatively few reports on the anti-tumor effect of Ch0Kα in tumor cells through competitive inhibition. Among them, Lin Ximeng believes that Ch0Kα can interact with the epidermal growth factor receptor (EGFR) to promote protein autophosphorylation, dimerization of the membrane and reduce its internalization, thereby passing the EGFR-AKT signal. The pathway promotes invasion and metastasis of tumor cells.

The MTT results of this study showed that the cytotoxic effect of DHA-SOL on 4T1 cells was greater than that of ADLs, which may be due to: 1AD was encapsulated in liposomes, while DHA □ DHA in SOL is a free small molecule drug that does not release this step; 2DHA small molecule drug enters tumor cells through passive diffusion, and liposome-encapsulated drugs are through adsorption, lipid exchange, endocytosis, and fusion. When entering the cell, the rate of passive diffusion is faster than that of the liposome, so the time for ADLs to exert antitumor efficacy may be greater than that of DHA-SOL, resulting in lower cytotoxicity than the latter.

In in vivo pharmacodynamic tests, the survival rate and tumor inhibition rate of ADLs are higher than AA-SOL and DHA-SOL. The reason may be: 1ADLs as liposomes, slowly releasing drugs in the body, delaying renal excretion and liver metabolism to AD Long-term circulation in plasma facilitates their accumulation in tumor cells, thereby prolonging the duration of action; 2A-SOL and DHA-SOL are not only harmful to tumor cells due to their poor targeting after administration through the tail vein of mice. And it also has a killing effect on normal cells in the body; in addition, because DHA is poor in water solubility and oil solubility, it needs to add 20% ethanol as a co-solvent. Ethanol has a toxic effect on cells, and may cause denaturation of proteins in blood vessels after entering blood. Causes permanent damage, thus resulting in low survival rate; 3ADLs can compete with choline for a long time to inhibit the high expression of ChoKα in cancer cells, preventing the invasion and metastasis of cancer cells. As the first key enzyme of choline metabolism, ChoKα inhibits the activity of this enzyme and is expected to significantly reduce the high expression of ChoKα in cancer cells. The body weight of the three groups of AA-OL, ADLs and DHA-SOL did not decrease with time, which may be because these three groups not only inhibit tumor growth, but also may reduce the rapid growth of tumors. The pain, which in turn improves the quality of life of the mice.

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Effects of Phosphate Fertilizer Application on Antioxidant Enzyme System of *Acanthopanax senticosus* (Rupr. Maxim.) Harms

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**Abstract**

To study the effects of different P levels on antioxidant enzymes in *Acanthopanax senticosus* seedlings, and to provide basis for scientific fertilization in artificial cultivation of *Acanthopanax senticosus*. Five treatments of phosphorus application were set up in the field, including group P1 (30g/m²), group P2 (60g/m²), group P3 (90g/m²), group P4 (120g/m²), group P5 (150g/m²) and control group CK (0g/m²). MDH activity, GR activity and protein content were measured at harvest time, And one-way ANOVA was performed. The results show that The amount of phosphorus fertilizer application affected the activity of antioxidant enzymes and protein content of seedlings. There were significant differences in protein content and GR activity among each treatment group, but no significant differences in MDH content.

**Key words:** *Acanthopanax senticosus*, Antioxidant enzymes, Phosphorus Fertilizer Application Rate

*Acanthopanax senticosus* can effectively treat rheumatism, coronary heart disease, angina pectoris, cerebral infarction and other diseases, mainly distributed in China, Russia, Japan, Korea and so on. Rational use of chemical fertilizers in medicinal plants can improve yield and quality, as well as the content of secondary metabolites. Improper use will cause adversity of plant growth, affect the normal growth and development of plants, break the physiological balance of plants, resulting in a large number of reactive oxygen species in cells. Reactive oxygen species oxidize lipids, proteins and nucleic acids in plants. Therefore, it is helpful to improve the yield and quality of seedlings by studying the effect of phosphorus application on the content of antioxidant enzymes in seedlings.

At present, there is little research on scientific fertilization of *Acanthopanax senticosus*. The changes of protein content and activities of antioxidant enzymes GR and MDH in *Acanthopanax senticosus* seedlings treated with different amounts of phosphorus fertilizer were determined in this experiment. The reaction and adaptation mechanism of antioxidant enzymes system to different amounts of phosphorus fertilizer were revealed, which provided scientific basis for high-yield and high-quality cultivation of *Acanthopanax senticosus*.

**Objective**

To study the effects of different amounts of phosphorus fertilizer (P) on the protein and antioxidant enzymes system of *Acanthopanax senticosus* seedlings, and to provide theoretical basis for scientific fertilization of *Acanthopanax senticosus*.

**Materials and methods**

AE240 Mettler Electronic Balance (German Mettler Company); Spectra Max M2 Microplate Detection System (American Valley Company); FS-1 Adjustable High Speed Homogenizer (Shanghai Bilang Company).
Urea Ca(H$_2$PO$_4$)$_2$·H$_2$O GB 2440-2001 (P > 14%); glutathione reductase (GR) assay kit ((Lot No: 20180526); malic dehydrogenase (MDH) assay kit ((Lot No); total protein TP assay kit ((Lot No: 20180713) were purchased from Nanjing. Build the Institute of Bioengineering.

The seedlings of *Acanthopanax senticosus* (Rupr. & Maxim.) Maxim were purchased from Hongxing Forestry Bureau, Yichun City, Heilongjiang Province, and identified by Professor Wang Zhenyue of Heilongjiang University of Traditional Chinese Medicine as *Acanthopanax senticosus* (Rupr. & Maxim.).

*Acanthopanax senticosus* seedlings were used as experimental materials in the medicinal botanical garden of Heilongjiang University of Traditional Chinese Medicine. The land was leveled and divided into 18 experimental plots, which were separated by PVC board and polyethylene film. The *Acanthopanax senticosus* seedlings were transplanted into the experimental field in spring. The length of the seedlings was 12.73 (+1.54 cm), the length of roots was 6.25 (+1.44 cm), the diameter of stems was 0.57 (+0.15 cm), the number of branches was 1, the length of buds was 0.58 (+0.21 cm), the amount of seeds laid down was 1.5 t/m$^2$ and the distance between plants was 0.4 M. When more than 95% of *Acanthopanax senticosus* seedlings grow the second leaf, they are treated with different amounts of phosphorus fertilizer. Other field production and management are carried out according to the actual local production measures. Diseases and insect pests are timely controlled. All the indexes are collected in mid-September. Six treatments were set up, CK (0g/m$^2$) control group, P1 (30g/m$^2$), P2 (60g/m$^2$), P3 (90g/m$^2$), P4 (120g/m$^2$), P5 (150g/m$^2$), and repeated three times in each treatment group. Twelve *Acanthopanax senticosus* seedlings were randomly selected from each treatment group and repetitive group and washed, and the second layer of fresh leaves were extracted. MDH activity, GR activity and protein content were determined. Each index was repeated for three times.

Statistics: The experimental data were analyzed by SPSS23.0 statistical software. The difference was significant by one-way ANOVA, LSD and Dunnett's-T method. The difference was defined as P < 0.05. Origin 9.0 was used to draw table 2. All data are misrepresented by mean (+standard).

**Results and discussion**

The results of one-way ANOVA showed that the amount of phosphorus fertilizer had significant effect on protein content and GR activity, but had no significant effect on MDH activity.

Table 1 shows that there are significant differences in protein content of *Acanthopanax senticosus* seedlings under different phosphorus fertilizer treatments. The protein content of all treatment groups was higher than CK group. With the increase of phosphorus fertilizer application, the protein content of each treatment group increased first, then decreased, then increased and then decreased. The highest MDH content of all treatments was P1 group. Table 1 shows that there is no significant difference in MDH among *Acanthopanax senticosus* seedlings treated with different phosphorus fertilizers. Except for P5 treatment group, MDH activity of all the remaining treatment groups was higher than CK group. With the increasing application of phosphorus fertilizer, the protein content of each treatment group showed a trend of increasing first, then decreasing rapidly after basically unchanged. The treatment group with the highest MDH activity was P2 group. Table 1 shows that the GR of *Acanthopanax senticosus* seedlings under different phosphorus fertilizer treatments is significantly different. Except for P1 treatment group, GR activity of all the remaining treatment groups was higher than CK group. With the increasing application of phosphorus fertilizer, GR activity of each treatment group showed a trend of first rising, then rising and then falling. The group with the highest GR activity in all treatments was P group 3.

There is a dose-effect relationship between the amount of phosphorus fertilizer applied to *Acanthopanax senticosus*. The appropriate amount of phosphorus fertilizer is beneficial to the growth and development of *Acanthopanax senticosus*. Low phosphorus fertilizer and high phosphorus fertilizer are not conducive to the growth of *Acanthopanax senticosus*, and they will all stress the environment.
Table 1 Effects of Phosphorus Fertilizer Application Rate on Antioxidant System

<table>
<thead>
<tr>
<th>Group</th>
<th>Protein(Mgprotml⁻¹)</th>
<th>MDH (U·mgprot⁻¹)</th>
<th>GR (U·gprot⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK</td>
<td>462.69±62.88abc</td>
<td>8.62±0.35a</td>
<td>0.38±0.02a</td>
</tr>
<tr>
<td>P1</td>
<td>785.55±32.43</td>
<td>10.56±0.77</td>
<td>0.22±0.01abcd</td>
</tr>
<tr>
<td>P2</td>
<td>648.72±94.05</td>
<td>15.25±0.92</td>
<td>0.43±0.02</td>
</tr>
<tr>
<td>P3</td>
<td>540.51±15.19ab</td>
<td>12.18±0.35</td>
<td>0.58±0.02</td>
</tr>
<tr>
<td>P4</td>
<td>783.13±48.5</td>
<td>12.5±0.12</td>
<td>0.46±0.03</td>
</tr>
<tr>
<td>P5</td>
<td>552.33±14.32ab</td>
<td>7.75±0.67a</td>
<td>0.28±0.01abc</td>
</tr>
</tbody>
</table>

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Simultaneous determination of eight chemical constituents in Paeoniae Radix by HPLC

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Abstract
The content of paeoniflorin in Paeoniae Radix is the highest. The Chinese Pharmacopoeia has also been used as the target component of medicinal material quality testing. In recent years, it has been found that other components in Paeoniae Radix also have important pharmacological activities. Therefore, only paeoniflorin is used as a peony drug. The only detection index of the material is not comprehensive enough to meet the increasingly high requirements for the quality control of the society. It is of great significance to establish a rapid, convenient and reliable method for the determination of a variety of Paeoniae Radix active ingredients for the quality control of Radix Paeoniae Alba.

Key words: Paeoniae Radix; HPLC; paeoniflorin ; benzoic acid

Paeoniae Rubra. is the dry radix of Paeonia lactiflora Pall. or Paeonia veitchii Lynch . Its history has many years. The pharmacological functions of Radix Paeoniae Rubra is mainly on clearing heat, cooling blood ,reveling pain and scattering analgesia . In recent years, the use of Paeoniae Radix Rubra has been increasing. The planting area has also been increasing, and the quality of medicinal materials has also been highlighted. With the progress of scientific research, the use of single components in the testing of medicinal herbs can no longer meet the test site requirements . Simultaneous determination of indicator components is one of the ways to improve the quality of medicinal materials. After consulting the literatures in recent years, the research has mainly focused on peoniflorin, benzoic acid, and gallic acid . Therefore, eight components of paeoniflorin, paeoniflorin, gallic acid, paeoniflorin, benzoic acid, peoniflorin, and peonol were determined in this experiment.

Objective
To establish a accurate and effective method for simultaneous determination of chemical components in Paeoniae Radix. This method can provide basis for identification and quality standards of Paeoniae Radix Rubra.

**Materials and methods**

Sample preparation: Paeoniae Radix Rubra. 2g, add 80% methanol 50ml, reflux extraction 2 times, one hour at a time, combine the filtrate, filter, spin down the filtrate, add 5ml methanol to dissolve, take 2ml over 0.25 microporous membrane backup. Liquid phase conditions: mobile phase A phase is 0.1% phosphoric acid aqueous solution, B phase is acetonitrile solution; gradient elution: 0 ~ 10min, 5% ~ 15% B; 10 ~ 25 min, 15% B; 25 ~ 35 min, 15%~25% B; 35~40min, 25% B; 40~45min, 25%~35% B; 45~55min, 35%~50% B; 55~60min, 50%~60% B; L/min; detection wavelength 220 nm; column temperature 30 °C; injection volume 10 μL.

**Results and discussion**

The method can simultaneously determine eight effective chemical components in Paeoniae Radix Rubra, which is effective and accurate, has a good linear relationship with peak area, and has good precision, stability, repeatability, and recovery. The effective separation of the components in sample can provide a basis for the evaluation of Paeoniae Radix Rubra. At the same time, the extraction method was optimized and 60% and 80% were investigated. 90% methanol and 60%, 80%, 90% ethanol was extracted by ultrasonic for 30 min, 60 min and 90 min, and reflux was extracted at 60 min, 90 min and 120 min respectively. The results showed that with the increase of extraction time, the content of extraction increased continuously, but the content of extraction was decreased for a long time. The results were consistent with the results of Yu Jiejing's experiment. The extraction conditions of the comprehensive factors were 80% methanol reflux extraction for 60 minutes.

In the determination results, Paeonia has the highest content of paoniflorin, followed by benzoic acid, but the content of paoniflorin is extremely low, which can be related to the harvest period and storage conditions of Paeoniae Radix Rubra. Simultaneous detection of multi-component content in the sample is conducive to a more comprehensive display of the pharmacodynamic material basis of Radix Paeoniae Rubra, which is conducive to a more comprehensive and accurate assessment of the quality of Radix Paeoniae Rubra, and is also conducive to more accurate quantification in the evaluation of Paeoniae Radix Rubra. The range of medicinal ingredients and the reasonable ratio between different ingredients.

**References:**


**Research Progress of Arsenic Trioxide Combined with Other Drugs in the Field of Tumor Therapy**

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Abstract:
Arsenic trioxide (ATO, molecular formula As$_2$O$_3$), also known as "arsenic" or "Heding red", is a highly toxic Chinese medicine. In recent years, As$_2$O$_3$ has been widely used in the treatment of various tumor cells such as promyelocytic leukemia, liver cancer, breast cancer, cervical cancer and lung cancer. Its selectivity is strong, its inhibitory effect on bone marrow is small, and it has a strong effect of reversing multidrug resistance. Multidrug resistance (MDR) refers to the cross-resistance of cancer cells to a variety of chemotherapeutic drugs with different structures and targets, which is one of the main reasons for the failure of chemotherapy. Studies have shown that As$_2$O$_3$ combined with a variety of drugs (such as Bortezomib, parthenolide, ascorbic acid, daunorubicin, cisplatin, paclitaxel, and tetrandrine) can play a synergistic role in anti-cancer, reversing MDR and reducing toxic and side effects in the course of treatment. Therefore, the study of As$_2$O$_3$ combined drugs provides a new idea for tumor therapy.

Key words: Arsenic trioxide: antitumor: reversal of multidrug resistance: tumor therapy

1. As$_2$O$_3$ combined with other drugs synergistically anti-tumor
As$_2$O$_3$ combined with certain drugs can enhance the sensitivity of cells to drugs, and synergistically inhibit tumor cell proliferation and induce apoptosis. As$_2$O$_3$ combined with rapamycin and its derivative everolimus (Rad001) can synergistically promote autophagy and apoptosis of ovarian cancer cell line SKOV3. The combination of the two drugs significantly reduced the number of active cells in ovarian cancer compared with the drug alone group. In addition, As$_2$O$_3$ and melatonin, artemisinin, ascorbic acid, huangpamycin, resveratrol and tetrandrine (TET) have their own anti-tumor drugs can enhance the anti-tumor effect.

2. As$_2$O$_3$ combined with other drugs to reverse tumor multidrug resistance
Multidrug resistance (MDR) is not only one of the most important defense mechanisms for tumor cells to be attacked by chemotherapeutic drugs, but also one of the main causes of chemotherapy failure. Once the tumor cells produce MDR, it is necessary to increase the dose of the drug to achieve efficacy, and also increase the occurrence of toxic side effects. As$_2$O$_3$ wants to achieve the effect of reversing MDR, which requires not only a higher dose but also a longer duration of action. Therefore, the use of As$_2$O$_3$ alone as a reversal agent is not effective, and will increase the toxic side effects on the human body. In recent years, it has been found that when As$_2$O$_3$ is combined with certain drugs that reverse MDR, it can enhance the reversal effect, and at a lower dose, a better reversal effect can be achieved, and the mechanism of reversing MDR in different combinations is different.

2.1 As$_2$O$_3$ combined with immunosuppressants
Non-cytotoxic doses of cyclosporin A and As$_2$O$_3$ alone in K562/ADM cells have the effect of reversing MDR. After the combination of the two drugs, the toxicity was not increased, and the reversal effect was enhanced. The results of immunohistochemistry showed that the combination of MDR-1 gene and P-gp protein was down-regulated, and the expression of hMLH1 gene and hMLH1 protein was up-regulated.

2.2 As$_2$O$_3$ combined with protease inhibitors
The combination of the protease inhibitor bortezomib and As$_2$O$_3$ increases the uptake of doxorubicin in HL60/ADM cells by reducing the expression of the multidrug resistance-associated protein MRPI protein. As$_2$O$_3$ combined with $\gamma$-glutamylcysteine synthetase inhibitor butyl sulfanimide (BSO) can enhance the apoptosis-inducing effect of As$_2$O$_3$ on K562/ADM cells by inhibiting the expression of P-gp protein.

2.3 As$_2$O$_3$ combined with traditional Chinese medicine monomer
Traditional Chinese medicine monomers with MDR reversal have attracted much attention due to their high safety, small toxic and side effects, and multi-target advantages. The alkaloids, flavonoids and polyphenolic compounds in traditional Chinese medicine have the effect of reversing MDR. Zhao Jianfeng et al. found that the combination of TET and As$_2$O$_3$ can synergistically reverse the MDR of K562/A02 cells, which can reduce the IC$_{50}$ value of doxorubicin.
to K562/A02 cells. The possible mechanism is that the combination of MDR1 and MDR1 is downregulated. Gene expression and promotes uptake of doxorubicin by cells.

3. As$_2$O$_3$ combined with other drugs to reduce toxic side effects

When As$_2$O$_3$ works synergistically with other drugs, because the dose of the drug is lower than that of the drug alone, it can attenuate the side effects to a certain extent, but the toxic side effects are still inevitable after a long time of use, but Chen Youran et al.$^6$ found that TET can To reduce the cardiotoxicity of As$_2$O$_3$ during treatment, the combination of the two can inhibit the proliferation of various tumor cells such as A549, Hela and HepG2 cells, and the inhibition rate is higher than that of the single drug group.

**Conclusion:**

In summary, As$_2$O$_3$ combined with multiple drugs can synergistically fight tumors, reverse MDR, and reduce toxic side effects during treatment. This may be an inhibitory effect on key steps such as proliferation, apoptosis, metastasis, and tumor angiogenesis of tumor cells. This finding provides inspiration for chemotherapeutic drugs to enhance anti-tumor effects, reverse MDR, and reduce toxicity. In view of the above problems, it is suggested that the future research focus should be on the mechanism of the anti-tumor effect of As$_2$O$_3$ combined with other drugs.

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**The Negative Mood of Premenopause, Perimenopause and Postmenopause Modeling in ICR Mouse by Chemical Manipulation**

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**Objective** Perimenopause is a critical period for women in terms of the development or modification of health trajectories into old age. However, our understanding of the effects of perimenopause period in preventing postmenopausal health risks, especially negative mood, is incomplete, in part due to the lack of an experimental perimenopause model. The 4-vinylcyclohexene diepoxide (VCD) mouse model of menopause is more closely approximates the natural human menopause transition stage of life. Therefore, the present study was performed to define the mood characteristic of ICR mice model induced by VCD between premenopause, perimenopause and postmenopause.

**Methods** 28-day-old female ICR mice were randomly divided into the following treatment groups: control (n=30) and VCD (n=36). Control or VCD was administered intraperitoneally sesame oil or
Results Compared with control group, the percentage of open-arm time (OT%) and open-arm entries (OE%) in VCD group were significantly lower, and the total time spending immobile was significantly higher on the premenopausal, perimenopausal and postmenopausal period. The animal almost entered the premenopausal period occurred as irregular estrus period on the 25th of VCD treatment. On the 40th day of VCD injections, each anima entered almost perimenopause characterized by the alternation of proestrus (estrus) and diestrus. All animals entered approximately postmenopausal period onset of 55th day of VCD injections, defined as 7 days of persistent diestrus. On the 25th, 40th and 55th day, the coefficient of ovary and uterus of VCD group were all decreased compared to control group.

Conclusion The VCD-treated ICR mice is useful for modeling physiological processes involved in the increased negative mood risks associated with pre-, peri- and postmenopause.

Keywords: Perimenopause; VCD, 4-vinylcyclohexene diepoxide; Anxiety; Depression

References

Research progress of anti-tumor effect and reversing multi-drug resistance of schizandrin A

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Abstract

Schisandra chinensis (Turcz.) Baill. is a traditional Chinese herb that has long been widely used as a medicinal material. Schizandrin A (SchA) is a major lignan found in the fruits of several species of the Schisandra genus. It has been reported that Sch A exhibits antioxidant, anti-inflammatory, anticancer, and neuroprotective effects. The current studies discovered that Sch A not only displayed favorable tumor suppressive activity, but also possess great potential on reversing the resistance to antitumor agents.
Key words: schizandrin A, anticancer, multi-drug resistance

The plant known as Fructus schisandra (FS) in the Chinese Pharmacopoeia, and more commonly known as Schisandra chinensis or the five-flavor berry, has been applied as a medicinal herb in China for several millennia without reports of side effects, and is indexed as tonic and sedative. Schizandrin A (Sch A) is a bioactive lignin compound with potential neuroprotective effects that was isolated from the fruit of Schisandra chinensis (Turcz) Baill, which long has been used in traditional Chinese medicine to treat spontaneous sweating, chronic asthma, insomnia and amnesia. In recent years, scholars at home and abroad have found that Sch A is a drug with multiple functions that overcomes tumor resistance and enhances anti-tumor effects, and has good prospects for development in the future.

1. Antitumor effect of Sch A

It is currently believed that the main anti-tumor component of Schisandra is a lignan component. Schisandra anti-tumor mechanism has many aspects, including inducing tumor cell apoptosis, improving the body's immune regulation, anti-oxidation, scavenging free radicals, anti-mutation and reversing the multi-drug resistance of tumor cells. Liu [1] et al found that Sch A at a concentration of 50-100 mg/L can significantly inhibit the proliferation of gastric cancer cell line SGC-8901. Sch A can also inhibit the proliferation of human hepatoma SMMC-7721 cells and induce apoptosis, and enhance the apoptosis of human hepatoma SMMC-7721 cells and human breast cancer MCF-7 induced by doxorubicin. Kim [2] et al examined the antiproliferative effect of schizandrin A in human breast cancer cells. Sch A exhibited growth inhibitory activities in cultured human breast cancer cells, 50μmol/L Sch A can significantly arrest T47D cells in G0/G1 phase, and inhibit the expression of cyclin D1 and CDK4 protein in a dose-dependent manner. When the concentration of Sch A is 100μmol/L, cyclin A and cyclin B1, CDK2 and CDC2 proteins were significantly inhibited, and the expression of the cell cycle protease inhibitors p21 and p27 was significantly enhanced.

2. Sch A reversing multi-drug resistance

Chemotherapy for cancer is often hampered by the rapid emergence of multidrug resistance (MDR). The major cause of MDR is attributed to efflux pumps that reduce intracellular drug concentration. The efflux pumps are identified as ATF-binding cassette (ABC) transporters characterized with their homologous ATP-binding domains. P-glycoprotein (P-gp) is the most important ABC transporter. Studies have confirmed that Sch A can reverse P-gp-mediated multidrug resistance. Hye Hyun Yoo [3] et al measured the cellular accumulation of rhodamine-123 in Caco-2 cells with 12 Schisandra lignans. Among them, deoxyschizandrin exhibited the most potent effect on the accumulation of rhodamine-123. At 50 microM of Sch A, the transport ratios (B-A/A-B) for digoxin and rhodamine-123 were 2.2 and 2.1 compared with the control ratios of 15.2 and 12.2, respectively. These results demonstrated that Sch A effectively inhibited the P-gp-mediated efflux in Caco-2 cells. Pan [4] et al used human leukemia K562/Adr, MCF-7/ADR (P-gp high expression cell line) as a tool to observe Sch A’s ability to reverse resistance to daunorubicin. They proved that Sch A can fully restore the intracellular drug accumulation in four MDR cell lines, and overcome the P-gp mediated drug resistance. Taken together, Sch A is potent P-gp inhibitors with high safety and have the potential for future clinical application. Su [5] et al developed a novel microemulsion system (SD-ME) coloaded with docetaxel (DTX) and Sch A. In anticancer efficacy studies in vivo, SD-ME markedly retarded the tumor growth of nude mice bearing EC109/DDR tumor xenografts compared with D-ME and free DTX throughout the duration of study. Consequently, mice treated with SD-ME had the highest survival rate (37.5%) during the observation period (70 days). In addition, there were no apparent side effects after the administration of SD-ME.

Discussion

A large number of studies by modern scholars have shown that Schizandrin A is a tumor reversal agent with obvious effects. Now there are more and more studies to combine Schizandrin A with other anticancer drugs, such as doxorubicin and paclitaxel, to overcome cancer resistance, to enhance the anti-tumor effect and prevent myocardial toxicity. And often used in nano drug-loading systems, such as liposomes, nanoparticles, polymer micelles, etc., so that Schizandrin A can target
tumor sites and accurately exert therapeutic effects. Schizandrin A has great potential in anti-tumor research. Researchers need to conduct more in-depth research and development on Schizandrin A, and also need long-term safety and efficacy studies in vivo. It is a hot spot for future research to load the Schizandrin A package into a suitable nano drug-loading system and reach the design site more precisely to exert a stronger local targeting effect.

References

Application of Metabolomics in the Study of Chinese herbal Formula

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Abstract
Metabolomics studies the metabolic network of organisms and the metabolic changes in the whole body in order to explain the mechanism of drug action and the pathogenesis of diseases, which is similar to the holistic view of traditional Chinese medicine (TCM). Therefore, metabolomics has unique advantages in the study of Chinese herbal formula. This article mainly elaborates the compatibility rule and mechanism of Chinese herbal formula, which provides the basis for the application of metabolomics in the field of Chinese herbal formula research and prospects the application prospect of metabolomics in the field of Chinese herbal formula.

Key words: Metabolomics, Chinese herbal Formula, Compatibility rule, Mechanism of action

Chinese herbal formula mainly refers to the prescription with specific therapeutic effect under the guidance of holism and syndrome differentiation theory, combined with the theory of pathogenesis and medicinal properties, according to a variety of principles. The chemical composition of these prescriptions is complex, and they can also exert good pharmacodynamics through multi-flavor Chinese medicines and multiple targets. Metabolomics reflects the overall changes of the body by studying the changes of metabolites, which is in accordance with the holistic view of traditional Chinese medicine and can be systematically, holistically and objectively analyzed by modern instrumental analysis combined with chemometric. It provides a new research idea for the study of Chinese herbal formula [1]. This paper summarizes the application of metabolomics in the study of Chinese herbal formula.

Application of Metabolomics in the Study of Compatibility Rules of Chinese herbal formula
Compatibility is the core relationship of Chinese herbal formula and the condensation of TCM wisdom. The effect of Chinese herbal formula in treating corresponding syndromes is not simply the sum of single drugs but depends on the relationship between quality and quantity. Different combinations of quality and quantity have different therapeutic effects. Metabolomics has the advantages of high throughput and sensitivity. It can objectively and non-discriminately reflect the metabolic profiles of endogenous metabolites and thus reflect their physiological status. It is the most effective analytical method for studying the complex "dose-effect relationship" and "group-
effect relationship" in traditional Chinese medicine prescriptions. It has been reported that Wang [2] and others used UPLC/ESI-SYNAPT-HDMS-based metabolomics to study the effects of Liuwei Dihuang pills on endogenous compounds in kidney deficiency rats. The results showed that the three groups had little effect, but were less effective than the whole group, and the compatibility rule was the same as Liuwei Dihuang pills, Sanxie Fang (Zexie, Poria cocos, Danpi) and Sanbu Fang (Shud, Yam Yam, Cornus officinalis). The research provides scientific basis.

**Application of Metabolomics in the Study of mechanism of action of Chinese herbal formula**

The mechanism of action of Chinese herbal formula has the characteristics of multi-component, multi-level, multi-target and multi-metabolic pathway. Metabolomics belongs to the research method of systematic biology. It studies the organism as a whole, which is very consistent with the holistic view of TCM and the concept of syndrome differentiation and treatment. Metabolomics is systematic and dynamic from the point of view of the influence of internal and external factors on the biological metabolic network. It is a very effective research method to evaluate the overall efficacy of Chinese herbal formula. In order to elucidate the mechanism of Chinese herbal formula in treating diseases, metabolomics can be used to study Chinese herbal formula and find its related metabolites. Shen Shujie [3] et al. studied the sedative and hypnotic effects of Banxia Houpu Decoction based on 1H-NMR metabolomics technology. The results showed that Banxia Houpu Decoction may play a role in regulating sleep by regulating the contents of glutamine, creatine phosphate and 2-ketoglutarate acid in barbiturate-induced sleep model rats.

**Expectation**

Metabolomics can be applied to the field of Chinese herbal formula to evaluate their overall efficacy, which will help to reveal the connotation of Chinese herbal formula systematically and profoundly. In recent years, some achievements have been made in the use of modern analytical techniques such as NMR, LC-MS, GC-MS, etc. Metabolomics is a newly developing discipline. Instrumental analysis techniques, sample processing methods and data analysis methods still need to be further improved. However, the author believes that with the continuous improvement of various technologies, metabolomics will have a broader application prospect in the field of Chinese herbal formula research.

**References:**


**Preliminary Study on the Effect of Polysaccharide Protein Components on the Formation of Nano-phase of Baihutang**

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**Abstract**

The effective phase of the anti-heating effect of Baihu Decoction is nano-phase. The polysaccharide and protein components in the nano-phase of Baihutang are studied.

**Key words:**baihutang,nanophase,protein,polysaccharide

**Objective**
In order to study the effect of polysaccharide components and protein components in the nano phase of Baihutang on the formation of nanophas.

**Materials and method**

By single factor experiment, the effects of salt-dissolving method and alkali-soluble acid precipitation method on the protein in the nano-phase of Baihutang were compared. The star-point design-response surface method was used to optimize the protein separation process in Baihutang nanophas. The salt of (NH4)2SO4 solution was salted out, the protein was purified by membrane dialysis, and the content of protein component in the nanophas of Baihutang was determined by Coomassie Brilliant Blue method. The polysaccharide component in the nanophas of Baihutang was separated by alcohol precipitation method. The content of polysaccharide component was determined by phenol-sulfuric acid colorimetry, and the color development conditions were optimized according to the orthogonal design method. The polysaccharide group was removed by trichloroacetic acid method. The impurity protein in the fraction is purified by membrane dialysis technique, cellulose column chromatography and dextran gel column chromatography. Based on the separation of protein components and polysaccharide components in the nanophas of Baihutang, the particle size was determined by the British Malvern particle size analyzer. The polysaccharide fraction in the nanophas of Baihutang was studied by TEM scanning. The effect of protein components on the formation of nanophas.

**Results and discussion**

There are polysaccharides and protein components in Baihutang. The effect of alkali-soluble acid precipitation on the protein components in the nano-phase of Baihutang is better than that of salt-soluble method. Star-point design-response surface method is used to optimize the separation of Baihutang nanophas. The protein component process is: liquid to material ratio of 16:1, pH 9.5, heating time of 90 min, heating temperature of 32 ° C. At this time, the average protein yield was 26.74%, and the RSD was 1.68% (n=3). After salting out in the (NH4)2SO4 solution, the protein powder content after membrane dialysis was 0.17 mg/mL. The polysaccharide fractions in the nanophas of Baihutang were coarsely divided by the fractional alcohol precipitation method, and the yield was higher. The optimal conditions for the separation of polysaccharides in the nanophas of Baihutang by alcohol precipitation method were as follows: the alcohol concentration was 80%. After standing for 12 h, the alcohol was precipitated twice; the optimum color development conditions for the determination of polysaccharide content by phenol-sulfuric acid colorimetry were: phenol 1.5 mL, concentrated sulfuric acid 7 mL, reaction temperature 100 °C, reaction time 10 min. The polysaccharide was deproteinized by trichloroacetic acid method, purified by membrane dialysis, and purified by column chromatography to obtain a uniform polysaccharide fraction with a content of 0.22 mg/mL.

When the polysaccharide and protein components are present in the nano-phase solution of Baihutang, the white tiger soup nanoparticles have clear shape, spherical shape, continuous distribution, rich particle information, particle size of 100nm, and removal of polysaccharides and protein components. After that, the white tiger soup nanoparticles were finely divided, the morphology was not good, and aggregation occurred, and the particle size was 200 nm.

The presence of proteoglycan components plays an important role in the formation of nanodispersion systems.

The presence of proteoglycan can make the white tiger soup form a colloidal solution, thereby forming a hydrophilic protective colloid and increasing the stability of the solution.

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Research Progress on reversal of Drug Resistance in Breast Cancer with traditional Chinese Medicine

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Abstract
Breast cancer is one of the most common diseases among women worldwide. As a malignant tumor, it poses a serious threat to women's physical and mental health. The resistance of breast cancer cells to chemical drugs is an important reason for the recurrence and treatment effect of breast cancer. The active ingredients of traditional Chinese medicine are diverse, multi-target side effects are small, and it has the advantages of reversing the resistance of breast cancer to chemical drugs. In order to promote the application of traditional Chinese medicine in the treatment of breast cancer, this paper summarized the latest research progress of drug resistance reversal of breast cancer.

Key words: breast cancer, traditional Chinese medicine, drug resistance, reverse drug resistance

Breast cancer is a malignant tumor disease with complex mechanism. As a common disease among women, the incidence of breast cancer has been on the rise since the late 1970s. From 1982 to 2001, the incidence rate of breast cancer among women in Beijing urban areas increased by 4.6% per year, which exceeded the global growth rate of 2% per year. With a large population, the number of cases of breast cancer in women in China reaches 169,000 each year, accounting for 12.25% of the global incidence, ranking first in the world after the United States (182,000). Modern studies have shown the effects of TCM in the treatment of breast cancer, including the reversal of multi-drug resistance, inhibition of breast cancer metastasis, proliferation, induction of tumor cell apoptosis and retardation of breast cancer cell cycle.

The traditional treatment methods for breast cancer include surgery, radiotherapy, chemotherapy, endocrine therapy and molecular targeted therapy. Breast cancer belongs to the categories of "mammary rock", "mammary carbuncle", "mammary chestnut" and "mammary milk". According to traditional Chinese medicine, blood stasis is the main pathological manifestation of this disease, and the etiology and pathogenesis are related to liver qi stasis, deficiency of qi and blood, and imbalance of chong and ren. The main role of traditional Chinese medicine in the prevention and treatment of breast cancer is to assist or enhance modern medicine, especially in the treatment of postoperative complications, resistance to chemotherapy, reduce the toxic and side effects of chemoradiotherapy and endocrine therapy, improve the quality of life and prolong the survival period, and effectively improve the comprehensive treatment effect of patients.

Objective
To summarize the research on reversing drug resistance in breast cancer

Materials and methods
Relevant keywords including "treating breast cancer with traditional Chinese medicine", "resistance to breast cancer" and "reversing resistance to breast cancer" have been looked up on websites such as zhiwang, wanfang, ScienceDirect and vip.com since 2016. Check the mechanism of drug resistance in breast cancer and how Chinese medicine reverses drug resistance in breast cancer.

Results and discussion
The mechanism of drug resistance in breast cancer cells is complex. One of the most important mechanisms of drug resistance (MDR) in breast cancer cells is the overexpression of adenosine triphosphate (ATP) binding box (ABC) superfamily transporters, which use atp-driven energy to eliminate cytotoxic drugs and target anticancer drugs. Mainly related to the following factors : (1) the ABC transporters (P - glycoprotein, multi-drug resistance related proteins, breast cancer resistance protein BCRP) enzyme systems in the body (2) the abnormal glutathione (GSH/sh
transferase (GSH/GST), protein kinase C, topoisomerase I) (3) the abnormal cell apoptosis (4) autophagy

The active ingredient j196-10-1 isolated from LANGDU can effectively reverse the resistance of p-gp overexpressed cancer cells to daunorubicin, vincristine and topotecan. J196-10-1 competitively inhibited p-gp and reversed p-gp-induced breast cancer MDR.

Toosendanin (TSN) can make breast cancer cells sensitive to Adriamycin induced apoptosis by promoting intracellular adriamycin accumulation, regulating ABCB1 efflux pump and inhibiting PI3K/Akt signaling pathway. In conclusion, TSN can be used as a novel PI3K inhibitor to reverse resistance in breast cancer.

Shikonin (SK), a traditional Chinese medicine monomial extracted from the roots of shikonin, can reduce the drug resistance of breast cancer tamoxixine (TAM) by upregating LncRNA uc.57. Lnc RNA uc.57 binds to and down-regulates BCL11A and regulates TAM resistance of breast cancer through PI3K/AKT and MAPK pathways.

Drug resistance in breast cancer is an important cause of breast cancer treatment failure and recurrence. Traditional Chinese medicine has significant advantages in reversing drug resistance in breast cancer, which can effectively improve the adverse reactions of chemical drug therapy and reverse drug resistance, and plays a huge role in preventing and treating recurrence and metastasis of breast cancer. However, these studies are only in vitro and in vivo, and lack of relevant data. In addition, the composition of traditional Chinese medicine is complex, and the relationship between active ingredients and target has not been fully explained. The drug resistance mechanism of breast cancer is also very complex. Through in-depth research to clarify the effective components of traditional Chinese medicine and reverse the drug resistance of breast cancer, new ideas will be provided for the treatment of breast cancer.

References:
Research progress on chemical constituents from the leaves of Astragalus membranaceus (Fisch.) Bge

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Abstract
In recent years, the compounds were isolated by column chromatography on silica gel column chromatography, ODS column chromatography and sephadex LH-20. They were identified by 1D and 2D NMR, high resolution mass spectrometry and IR spectroscopy, and separated from the leaves of Astragalus membranaceus (Fisch.) Bge. Some compounds were isolated and identified, including flavonoids and saponin compounds.

Keyword: chemical constituents; triterpenoides; Astragalus membranaceus (Fisch.) Bge

Astragalus, leguminous Astragalus. var. mongholicus (Bge.) Hsiao or Astragalus membranaceus (Fisch.) Bge. Authentic medicinal materials used for the Pharmacopoeia of the People's Republic of China [1]. It was first published in "Shen Nong's Herbal Classic": "Sweet, slightly warm", said Huang Qi is Dai Dai, the main sputum, long-lost sore, painful pus and pain, windy dysentery, five sputa, rat sores, tonic, pediatric diseases.

Astragalus membranaceus (Fisch.) Bge has complex medicinal chemical composition and wide medicinal value. In recent years, domestic and foreign scholars have studied the biology, plant cultivation, chemical composition and pharmacological effects of the roots of Astragalus membranaceus (Fisch.) Bge. However, some scholars have done chemical and pharmacological activities on the stems, leaves and pods of Astragalus membranaceus (Fisch.) Bge, and found that they also have high medicinal value [2]. In the state where the wild scutellaria has been continuously destroyed, it has been included in the tertiary protection plants, and most of the scutellaria is now supplied by the cultivar Huangqi. The study on wild Astragalus membranaceus (Fisch.) Bge or cultivated Astragalus membranaceus (Fisch.) Bge leaves was a new way for the development and utilization of wild medicinal scutellariae.

There have been reports of flavonoids and saponins in the aerial parts of Astragalus membranaceus (Fisch.) Bge, but in recent years there has been a little research on the chemical composition of the aerial parts of Astragalus membranaceus (Fisch.) Bge. Therefore, we have summarized the chemical constituents of the leaves of Astragalus membranaceus (Fisch.) Bge. These include two major components of flavonoids and saponins.

Objective
To summarize the flavonoids and saponins isolated from the leaves of Astragalus membranaceus, the theoretical basis for further quality control is provided.

Result and Discussion

Flavonoids
In 2014, Ma Zhenping isolated some flavonoids, including Kaempferol-3-O-[6'-O-(trans-p-coumaroyl)]-β-D-glucopyranoside, 3, 3', 4, 4'-pentahydroxyflavone.In 2015, Wang Zhbin, Zhai Yadong, et al. isolated eight flavonoids from the leaves of Astragalus membranaceus (Fisch.) Bge, including rhamnocitin-3-O-β-D-glucopyranoside, quercetin, quercetin 3-O-β-D-glucopyranoside, rhamnocitin 3-O-β- D-neohesperidoside, complanarudside, calycosin 7-O-β-D-glucopyranoside, 4',7-dihydroxy-3'-methoxyisoflavone, formononetin. In 2017, Wang Zhbin, Chen Yajun, et al. isolated thirteen flavonoids, including rhamnocitrin-3-O-β-D-glucopyranoside (1’→2')-β-D-apiofuranosyl, glycine, genistein, genistin, genistin, genistin.

Saponins
for the first time. Huangqiyanin A, huangqiyanin B, further enzymatic hydrolysis gave two compounds of this type, huangqiyanin I, huangqiyanin II.In the same year, Kuang Haixue, Zhang Ning, et al [5] isolated a cycloartane-type triterpenoidal saponin from the leaves of *Astragalus membranaceus* (Fisch.) Bge for the first time, huangqiyanin D, further hydrolysis to obtain 6-acetyl-cycloastra genol and cycloastra genol.In 2009, Kang Haixue, Yoshiihito Okada et al. [6] isolated two 9,10-secocy cloartane-type triterpenoidal saponins, huangqiyanins E and F, and further hydrolyzed to obtain two other types of this type. Compound huangqiyaninns III, huangqiyaninens IV. and a tetracyclic triterpenoid, triacetylhuangqiyanin II. In 2011, Kuang Haixue, Wang Quihong, et al [7] isolated four 9,10-seco cycloartane (=9,19-cyclo-9,10- from the leaves of *Astragalus membranaceus* (Fisch.) Bge for the first time. And secolanostane triterpenoidal saponins, huangqiyanin G, huangqiyanin H, huangqiyanin I and huangqiyanin J were isolated. In 2014, Ma Zhenping isolated a new cycloartane-type triterpenoid, huangqiyanin IX and Atragaloside II. In 2015, Kuang Haixue, Zhai Yadong, et al [8] for the first time isolated four cycloartane-type triterpenoids, huangqiyanin V, huangqiyanin VI, huangqiyanin K and Huangqiyanin L.

Others

In 2014, Ma Zhenping isolated a lignin compound, dehydrodiconiferyl-alcohol-4-O-β-D-glucoside, and Plant sterols, (22E, 20S, 24R)-5a, 8a, epidi oxy-ergosta-6,22-dien-3β-ol, and Unsaturated fatty acid compounds, (2S, 3S, 4R, 8E/Z)-2-(2′-hydroxy lignoceroylamino)-8-octadecene-1, 3, 4-triol-β-D-glucopyranoside.

At present, there are few studies on the chemical constituents in the leaves of *Astragalus membranaceus*, but the Atragaloside IV has not been isolated, and further research is needed.

References:


Effect on Ganoderma lucidum polysaccharides with radiation injured and analysis of its thymus metabolomics

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Radiation-immune injury and immune dysfunction caused by it are the most common diseases in patients with nuclear radiation, radiation therapy and radioactive nuclear accidents. Lighter causes long-term low immune function, affecting the quality of life, and severe cases often die due to serious infections. It is still a difficult problem to be solved in clinical practice. The administration of exogenous substances has positive significance in helping the body restore immune function and reduce radiation damage. According to the current research results, it can be predicted that metabolomics will play an active role in the radiation damage mechanism, the prediction of radiation measurement and radiation damage effects, the protective effect of radioprotectants and the safety evaluation of anti-radiation drugs, and the observation of the effects of radiation therapy.

Objective
A mice model of radiation damage was established and used to observe the effect of Ganoderma lucidum polysaccharides(GLP) on endogenous substance metabolism in radiation-injured mice by metabolomics method, find and identify potential metabolic markers associated with radiation and analyze their metabolic pathways. According to the data obtained by the detection and analysis, the possible molecular mechanism of the radiation protection of Ganoderma lucidum polysaccharides is analyzed and explored.

Materials and methods
Thirty mice were randomly divided into three groups. Namely 10 in the normal group, the radiation model with normal saline and GLP group with GLP treatment (96 mg·kg⁻¹) for 14 days, 2 hours after 7th day after the intragastric administration, the model group and GLP group were subjected to whole body irradiation by X-rays except the normal group. UPLC-Q-TOF-MS was used to detect endogenous small molecule metabolites in thymus tissue under electrospray ionization positive and negative ion mode with m/z 50–1 000, and Principal Component Analysis (PCA) and Orthogonal Partial Least Squares Discriminant (OPLS-DA) were adopted to compare the changes of endogenous small molecule metabolites in normal group, model group and GLP group, these different metabolites among four groups were analyzed by KEGG metabolic pathway method.

Results and discussion
A total of ten potential biomarkers and six major metabolic pathways were identified and compared with the model group, it was found that the GLP group had a significant reversal trend on L-glutamic acid, taurine, PC and LysO, etc. which were involved in metabolism of Taurine and hypotaurine metabolism, D-Glutamine and D-glutamate metabolism, Glycerophospholipid metabolism.

GLP has a certain pharmacological effect on the differential metabolites in radiation-induced mice, and its mechanism is related to the metabolism of taurine and hypotaurine, D-glutamine and D-glutamate metabolism, and Glycerophospholipid metabolism.

GLP can play a role in radiation protection by improving the expression of related potential biomarkers and related metabolic pathways in thymus of radiation-induced mice.

References:

**Determination of Polysaccharide in Acanthopanax senticosus and Investigation of Deproteinization Process**

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Abstract: Objective To select a optimal method for removing proteins in crude *Acanthopanax Senticosus* Polysaccharides. Method: the deproteinization effects of trichloroacetic acid (TCA), enzyme and enzyme-sevag combination method were evaluated with the protein removal rate and polysaccharides lose rate.

Results: the results demonstrated the deprivation rate of protein for TCA method, enzyme method and enzyme-sevag combined method was 42.97%, 74.14%, 93.54%, respectively, and the polysaccharides loss was 49.19%, 35.32%, 30.33%. Conclusion: the enzyme-sevag combined was the most effective and feasible method for removing proteins.

Keyword: *Acanthopanax Senticosus* Polysaccharides; Sevag; Papain; Deproteinization

Acanthopanax Senticosus Polysaccharides (ASP) is another important biological active ingredient other than saponins and saponins. A wide range of biological activities, such as the weight of organs and the ability to induce interferon-inducing [¹], has attracted much attention as a research hotspot. Since protein is the most important substance affecting the purity of polysaccharides, in order to carry out further research on the polysaccharides of Acanthopanax senticosus, it is determined that the protein removal method is very important except for the high protein efficiency and low polysaccharide loss rate. This experiment uses Sevag method and trichloroethylene. Acetic acid method (TCA method), papain-sevag method [²-³] three different methods of protein removal, the extraction process of Acanthopanax senticosus polysaccharides.

1 Instruments and reagents
721 UV-visible spectrophotometer; AB265-S electronic analytical balance; electric thermostatic water bath; Coomassie Brilliant Blue G-250, bovine serum albumin; D-anhydrous glucose

2 Methods and results
2.1 Determination of polysaccharide content of Acanthopanax senticosus
2.1.1 Drawing of the standard curve of polysaccharide

With absorbance (A) as the abscissa and glucose content (μg) as the ordinate, the regression equation was obtained. The regression equation was y=0.0053x+0.1486, R²=0.9983

2.2 Determination of glucose content in samples
The average polysaccharide content of the Acanthopanax senticosus polysaccharide was 79.93%.
2.3 Determination of protein content

2.3.1 Drawing of protein standard curve

The results are shown in Figure 2.

2.3.2 Determination of protein content:

Accurately measure 1 mL of the sample solution, add 5 mL of Coomassie Brilliant Blue G250 stock solution, shake, and incubate at 30 °C for 5 min. After cooling to room temperature, absorbance was measured at 595 nm and measured in parallel for 3 times. The average protein content of the Acanthopanax senticosus polysaccharide was 28.84%.

2.4 Comparison of different protein removal methods for Acanthopanax senticosus polysaccharides

2.4.1 Sevag method

Measure the aqueous solution of Acanthopanax senticosus, add sevag reagent (chloroform: n-butanol = 4:1, V/V) in a volume of 1/3, shake, centrifuge to remove denatured protein, and operate the same method 5 times. The mixture was added with absolute ethanol to an alcohol content of 80%, allowed to stand overnight, precipitated and centrifuged, and lyophilized. The lyophilized powder was prepared into a polysaccharide solution having a concentration of about 2 mg/mL, and the protein content was determined to be 14.12% according to the method of 2.3.3.

2.4.2 Trichloroacetic acid method

Measure the aqueous solution of Acanthopanax senticosus, adjust the concentration of trichloroacetic acid to 15%, shake it, and let it stand overnight. Add 1 mol/L NaOH to adjust the pH of the solution to neutrality, and add to the alcohol content with absolute ethanol. It was 80%, allowed to stand overnight, precipitated and centrifuged, and lyophilized. The lyophilized powder was prepared into a polysaccharide solution having a concentration of about 2 mg/mL.

2.4.3 Papain-sevag method

The aqueous solution of Acanthopanax senticosus was prepared according to the enzyme bottom ratio of 2.0 mg/L, the enzymatic hydrolysis temperature was 50 °C, the enzymatic hydrolysis time was 1 h, taken out, placed at room temperature, and added in a volume of 1/3. Sevag reagent (chloroform: n-butanol = 4:1, V/V), shaken, centrifuged to remove the deformed protein, the same method was used for 3 times, added with absolute ethanol to 80% alcohol, and allowed to stand overnight. The pellet was centrifuged and lyophilized. The lyophilized powder was prepared into a polysaccharide solution having a concentration of about 2 mg/mL.

2.5 Survey indicators and results

Protein clearance = amount of protein before deproteinization - amount of protein after deproteinization / amount before deproteinization × 100%

Loss of polysaccharide = amount of polysaccharide before deproteinization - amount of polysaccharide after deproteinization / amount of polysaccharide before deproteinization × 100%
Comprehensive score = (each polysaccharide residual rate / highest polysaccharide residual rate per group) $\times 0.5 \times 100\% +$ (each deproteinization rate / maximum deproteinization rate per group) $\times 0.5 \times 100\%$ \[8-10\]

The results of the comprehensive discussion:

The Sevag method uses the principle of organic reagents to denature and insoluble proteins. As the number of deproteinization increases, although the protein residual rate is gradually reduced, the loss rate of polysaccharides is gradually increased, resulting in a large loss of polysaccharides. In addition, due to the amount of organic reagents. Larger waste of resources; trichloroacetic acid method has the best effect of removing protein, but the acidity is too strong, which has the risk of destroying the structure of polysaccharide; papain-Sevag combined method for deproteinization, using enzyme to make most proteins mildly hydrolyzed And combined with the sevag method for deproteinization, the ideal deproteinization effect can be achieved in 3 times \[9,10\], which reduces the amount of organic reagents compared with the sevag method alone, saves resources and improves the efficiency of deproteinization. A method worthy of promotion and application, so this experiment uses the combination of sevag-enzyme to purify the Acanthopanax senticosus polysaccharide.

References

Simultaneous determination of five components in classical Chinese prescription
Danggui Buxue Decoction by HPLC

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Abstract
OBJECTIVE: To establish a high performance liquid chromatography (HPLC) method for the simultaneous determination of ferulic acid, saponin I, flavonoids, flavonoids, and formononetin in
Danggui Buxue Decoction. METHODS: A Diamonsil C18 column (250 mm × 4.6 mm, 5 μm) was used. The mobile phase was eluted with a gradient of methanol: 0.4% formic acid with a detection wavelength of 280 nm. RESULTS: Ferulic acid, Isoproterol, L., isoflavone glucoside, flavonoid, and formononetin were 0.092-0.924, 0.091-0.912, 0.015-0.154, 0.082-0.828, 0.018-0.182 mg·mL^{-1}, respectively. The linear relationship was good in the concentration range, and the recoveries were 100.82%, 101.37%, 99.21%, 101.54% and 97.63%, respectively, and the RSD were 1.39%, 2.19%, 1.59%, 1.30% and 1.63, respectively. Conclusion: This method is simple in operation, accurate and reliable, and suitable for the determination and quality control of Danggui blood preparation.

Key words: calycosin-7-o-beta-D-glucoside; ferulic acid; senkyunolide I; ononin; calycosin

Danggui Buxue Tang is a remedy for qi and blood. It consists of two herbs: Astragalus and Angelica. Because of its simple medication, it has been used by future generations and has been enduring for a long time. On April 16, 2018, the State Administration of Traditional Chinese Medicine issued the "Ancient Classics List (First Batch)", and Danggui Buxue Tang was included in the first batch of classics. Symptoms "heat fever, irritability, thirst, muscle heat does not want to be close to clothing, its pulse is large, according to the powerless, or both eyes and nose dry." The prescription has the effect of tonifying qi and blood. The treatment of blood deficiency and yang stagnation fever syndrome has a miraculous effect. Modern clinical treatment is often used to treat anemia, enhance immunity, climacteric syndrome, cardiovascular and cerebrovascular diseases, adjuvant treatment of cancer patients and immune dysfunction. Caused by diseases, etc. In order to ensure the safety and effectiveness of Danggui Buxue Decoction, this paper selected the water-soluble components with higher content in Danggui Buxue Decoction, including astragalis isoflavone glycosides, formononetin, flavonoids and ferulic acid in Angelica sinensis. It has 5 components in total with Yangchuan Azlactone I. In this paper, an HPLC method for simultaneous determination of multi-indicative components in Danggui Buxue Decoction under the same conditions was established, which could provide a reference for improving its quality standards and formulation development research.

Materials and methods:

LC-20AT liquid chromatograph (Shimadzu Corporation, Japan); AB265-S METTLER electronic balance (METTLER TOLEDO Instrument Co., Ltd.); H2050R desktop high-speed refrigerated centrifuge (Hunan Xiangyi Laboratory Instrument Development Co., Ltd.) Company); SB-5200D ultrasonic cleaning machine (Ningbo Xinzhi Biotechnology Co., Ltd.); FE20-FiveEasy PlusPH meter (METTLER TOLEDO Instrument (Shanghai) Co., Ltd.).

Ferulic acid (batch 84687-98-4, purity >98%); Yangchuan azlactone I (batch No. 94596-28-8, purity >98%); musk isoflavone glycosides (batch 20633-67-4, purity >98%); hairy isoflavones (batch number 20575-57-9, purity >98%); formononetin (batch number 486-62-4, purity >98%) reference products were purchased from Sichuan Chengdu Purifa Technology Co., Ltd. . Methanol (chromatographically pure, DiKMA), formic acid (HPLC grade, Tianjin Komio Chemical Reagent Co., Ltd.), water is Wahaha pure water. Both Angelica and Astragalus were purchased from Harbin Sanshu Medicine Market (batch number 180928), and were certified as authentic by the Chinese Medicine Identification Department of Heilongjiang University of Traditional Chinese Medicine, in line with the 2015 edition of the Pharmacopoeia of the People's Republic of China (Part 1).

Results:

Calycosin-7-o-beta-D-glucoside content 2.83-3.09, ferulic acid content 2.18-2.34, senkyunolide content 1.62-1.69, ononin content 2.57-2.81, calycosin content 0.65-0.75

Conclusion:

This paper establishes an analytical method for simultaneous determination of various indicators in Danggui Buxue Decoction to characterize the quality of Danggui Buxue Decoction. Multi-component simultaneous determination can also reflect the compatibility of compound Chinese medicine. The method is simple, the result is accurate and reliable, and it is suitable for Angelica sinensis. Determination of the content of the preparation and quality control. At the same time, this study compared the content of the index components of different preparations of Angelica sinensis and blood, to some extent, reflected the influence of different preparation techniques on the
quality of preparations, and provided some reference for evaluating the rationality of the preparation process and improving the preparation process.

References:

The Research of Glycyrrhetinic acid-modified nanoparticles on Hepatitis B
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Abstract:
At present, most of the drugs used for the treatment of hepatitis B in the clinic are unable to meet the requirements for strong inhibition of virus replication. The active liver-targeted nano drug delivery system that constructs Glycyrrhetinic acid as a guide molecule can further promote the endocytosis of drugs by hepatocytes. This article describes the effect of GA-modified nano drug delivery system on HB and its research progress.

Key words: Hepatitis B, Glycyrrhetinic acid, nanoparticles, target point

Introduction
The GA-modified polymeric carrier material has obvious hepatotropic properties. The use of Chinese medicine molecular GA as a guide molecule to construct an active liver-targeted nano drug delivery system, and GA can act synergistically with model drugs. In the article, we describe the effect of GA-modified nano-drug systems on HB.

The advantage of GA-modified nanoparticles
Xiao[1] prepared Chol-PEG-GA modified brucine liposomes to significantly increase the intake of drugs into the liver. The GA modified docetaxel liposomes were prepared from Jie Li[2], and its antitumor effect in vitro was stronger than that of unmodified DX liposomes. We can use Chinese medicine molecular GA as a guide molecule to construct an active liver-targeted nano drug delivery system.

The mechanism of GA-modified nanoparticles on HB
The main receptors in the liver are sialoglycoprotein, folate receptor. The binding site of glycyrrhetinic acid is present on the hepatocyte membrane, and the carrier material modified with
glycyrrhetinic acid has a liver-targeting tendency. Therefore, glycyrrhetinic acid is an important modification material for the treatment of hepatitis B. Therefore, nano formulations with an adaptive carrier can actively collect in the liver so that the hepatitis B virus is suppressed in a relatively constant high concentration drug environment.

**Result and discussion**

The successful development of GA-oriented nano-agents can provide an effective drug for patients with clinical hepatitis B, and can create certain social and economic benefits. It can also make a useful exploration for the modernization of traditional Chinese medicine that is still in the exploratory phase.

**References:**


**Self-assembly nanostructure and anti-tumor effect of traditional Chinese medicine trichosanthin**

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**Abstract**

Tumor is one of the diseases that are currently the most harmful to human health. It is a new type of disease to find out that late, strong drug resistance and easy metastasis are the treatment of tumors. The combination of traditional Chinese medicine small molecules and biological agents through nano-self-assembly technology is a new type of treatment, treatment method; The epidemiological investigation of tumor and the self-assembled nanostructure of trichosanthin protein were used to summarize, analyze and analyze the domestic and foreign literatures on lung cancer, cervical cancer, nasopharyngeal carcinoma, liver cancer, gastric cancer and breast cancer, and pointed out that the self-assembled nanostructure of trichosanthin protein The mechanism of action for treating lung cancer, cervical cancer, nasopharyngeal carcinoma, liver cancer, gastric cancer and breast cancer; Trichosanthin self-assembled nanostructures have therapeutic effects on the above tumors.

**Key words:** Trichosanthin; nanometer; self-assembly; tumor

1 Epidemiological investigation of tumors

The current morbidity and mortality of malignant tumors is growing rapidly worldwide. According to data from the World Health Organization, malignant tumors are the 1st or 2nd leading cause of death in the population of 91 countries in 172 countries before the age of 70. Ranked 3rd and 4th out of 22 countries[1]. Chemotherapy is one of the most effective methods for the treatment of malignant tumors, and resistance to chemotherapy drugs remains the main obstacle to the success of chemotherapy. This makes the re-development of drugs an alternative treatment strategy. The re-development of drugs not only reduces the economic cost of developing new drugs, but also increases the safety of drug use[2]. Malignant tumors are extremely harmful to people's lives. People do not fully understand the etiology and pathogenesis of tumors. Although progress has been made in the treatment of tumors, they cannot completely cure malignant tumors.

2 Basic information about trichosanthin

Trichosanthin is derived from the dried roots of the cucurbitaceae plant or the double-sided tower. The main components are protein, polysaccharide, saponin, amino acid, etc. It has many
functions such as anti-tumor, termination of pregnancy, treatment of diabetes, regulation of immunity, etc. All kinds of tumors have inhibitory effects, and their anti-tumor effects are wellstudied.

2.1 Self-assembly nanostructure of trichosanthin

Trichosanthin (TCS) is a type 1 ribosome inactivating protein derived from Chinese herbal medicine. It has high anti-tumor and apoptosis-inducing activity. It has a significant inhibitory effect on the growth of lung cancer, colon cancer, breast cancer, cervical cancer, etc., but its short half-life limits its application. The researchers found that trichosanthin and albendazole produced a nanostructure by charge self-assembly, which enhanced the stability of the trichosanthin protein and enhanced its antitumor activity. The mechanism of the self-assembled nanostructure of trichosanthin is that the trichosanthin itself carries a cation, and the albendazole is packaged into an albumin with an anion, based on the combination of two differently charged albumin. In tumor cells, albumin is a major source of energy and nutrients that can be taken up by tumor cells to kill tumor cells.

2.2 Mechanism of inhibition of tumor by self-assembled nanostructure of trichosanthin

Liu[4] found that trichosanthin downregulates Notch signaling pathway to inhibit the proliferation of nasopharyngeal carcinoma cell line CNE2, reduce its proliferative capacity, and induce apoptosis of CNE2 cells; Zhuang[5] found that the mechanism of trichosanthin inhibiting lung cancer is to increase the expression of Caspase-3 mRNA in lung cancer cell A549; Wang[6] found that trichosanthin can decrease the expression of cytoskeletal proteins actin and tubulin, and inhibit the cell proliferation of Hela cells; Zang[7] can inhibit the proliferation of the trichosanthin gene by transfecting the recombinant adenovirus vector into theophylline cells, which may activate the Bcl-PARP signaling pathway and induce tumor cell apoptosis; Zhang[8] applied trichosanthin protein to the treatment of Hep-2 and AMC-HN-8 laryngeal epidermoid carcinoma, and found that it can change the cell cycle and inhibit cell proliferation; He[9] reported that trichosanthin can inhibit extracellular signals induced by tumor cells, regulate kinase-mediated angiogenic signals, thereby inhibiting tumor angiogenesis and acting as an anti-tumor; Wei[10] studied the mechanism of trichosanthin inhibiting the growth of gastric cancer MKN-45 cells, and found that trichosanthin can induce autophagy in MKN-45 cells, which is up-regulated by autophagy-associated gene 5 (Atg5) and transformed by autophagosome-labeled protein related.

3 Discuss

The incidence of modern cancer is increasing year by year. Chemotherapy is the most important treatment method at present, but chemotherapy brings great toxic and side effects. Therefore, Chinese medicines that have inhibitory effects on tumors have become mainstream. The self-assembled structure of Chinese medicine Tianhua powder has small structure and good absorption effect. It has a wide therapeutic range, good therapeutic effect on tumors, and is more easily accepted by humans. It is a new type of therapeutic drug for cancer, and its development prospect is broad.

References
Progress of biomimetic nanoparticles in cancer metastasis therapy

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Abstract: Cancer metastasis is one of the important causes of cancer death. The poor efficiency of drug delivery to the site of metastasis is the biggest problem in the treatment of metastases. The emergence of biomimetic nanoparticles has greatly improved the existing shortcomings of traditional nano-formulations and is expected to be the most promising delivery vehicle for cancer metastasis treatment. This review discusses the application of several biomimetic nanoparticles in the treatment of tumor metastasis, and provides a reference for the study of late nanoparticles.

Keywords: bionics, nano preparations, tumor metastasis, prospects

Introduction

Cancer metastasis refers to the invasion of tumor cells from the primary site into the lymphatic vessels, where blood vessels or other pathways are carried to continue to grow, forming the same type of tumor as the primary site tumor[1]. Today we have achieved some success in targeting cancer therapy, but we still face many challenges. The drug delivery efficiency is main problem. However, due to the limited EPR effect and permeability in micrometastasis, nanomedicine treatment metastasis is not sufficient. In addition, immune escape in the body is also a major problem limiting nano-targeting[2]. In order to improve the therapeutic effect of metastatic tumors, bionic strategies have attracted attention. This review summarizes the effects of three biomimetic nanomedicine systems on cancer metastasis and the future of biomimetic nanoparticles in future cancer metastases.

Erythrocyte membrane coated targeted delivery system

Red blood cells are the most abundant cells in human blood, and mature red blood cells have no cell nucleus and organelles. Hu[3] found that RBC-NP existed longer in vivo than ordinary nanoparticles, and the erythrocyte membrane covered the gold nanoparticles. Lang Tianqun[4] designed and constructed a heparanase-sensitive erythrocyte membrane-coated nano drug delivery system (rHS-DTX). The nanosystem improves the efficacy of chemotherapy drugs while reducing toxicity to normal cells.

Neutrophil membrane coated targeted delivery system

Neutrophils are the most abundant white blood cell. Neutrophils play an important role in the non-specific cellular immune system of the blood. Different related adhesion molecules of neutrophil membranes coordinate and coordinate the inflammatory process to bridge and promote CTC vaccination in the lesions before metastasis. Because neutrophil half-life is only 7 hours, direct application of neutrophils as a carrier for drug delivery is restrictive. Based on this theory, Ting Kang developed a nanoparticle (NM-NP-CFZ) that mimics neutrophils by targeting CTCs in the circulation and inhibiting the formation of metastatic niche.

Macrophase membrane coated targeted delivery system

Metastatic blood vessels are aslee due to poor vascular density in metastatic lesions, which prevented nano therapy from targeting small, non-vascularized metastases, making many therapeutic drugs unable to reach the metastatic site. During breast cancer lung metastasis, inflammatory monocytes can preferentially recruit micrometastases and then differentiate into mature macrophages to promote the establishment of metastases. He successfully constructed a biomimetic intelligent nano drug delivery system that uses the biological properties of inflammatory monocytes to load pea protein-responsive nanoparticles. The strategy not only overcomes the biological barrier of metastasis but also achieves targeted drug delivery.

Conclusion

Nanoparticle as a carrier overcomes many defects of traditional medicine. Researchers continue to explore and discover that the cell-nano drug delivery system combines synthetic nanoparticles with the cells themselves, giving them both advantages. This drug delivery system is given good biocompatibility and targeting capabilities. It is believed that the future cell-nano delivery system will not only have good development prospects in the field of cancer treatment, but also open up a new path in drug safety, efficient transport and precise treatment.

References


Pharmacodynamic study of different formulations of gynecological ice snake

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Abstract
The dosage form was reformed with the hospital preparation gynecological ice snake cream as the model drug, which were gynecological ice snake cream gel, gynecological ice snake cream ointment and gynecological ice snake plaster suppository. The preliminary pharmacodynamics of the three dosage forms were carried out. Firstly, in vitro release test, in vitro antibacterial experiment, the minimum inhibitory concentration of each dosage form against Staphylococcus aureus and Escherichia coli was investigated; and the experimental study on the antibacterial effect of rat bacterial vaginitis model was carried out. The results showed that each dosage form had obvious antibacterial effect in vitro. The reformed three dosage forms all have the effect of significantly increasing the itch threshold of guinea pigs. Has a good antibacterial, anti-inflammatory, anti-itch effect.

Key words: Gel, ointment, suppository, bacterial vaginitis, pharmacodynamics

Objective
The in vitro antibacterial concentration of gynecological ice snake gel, gynecological ice snake ointment and gynecological ice snake plaster suppository was determined, and the antibacterial and antipruritic experiments were carried out in vivo.

Materials and methods
In vitro release effects of various dosage forms were investigated. Different dosage forms were placed in artificial vaginal simulating solution by dialysis bag method, and shaken at 37℃ in water bath, respectively, at 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 5, Samples were taken at 6, 8, 12, 24, 48 h, and the amount released in vitro was recorded.
A 2-fold dilution of the test tube was used. The gynecological ice snake gel, ointment, suppository, and gynecological ice snake paste were diluted to a series concentration in the medium (the other strains were blank control and positive drug control). Add 0.1ml of diluted fresh bacterial solution (Staphylococcus aureus final bacterial concentration 1×10^7 CFU·ml^{-1}, Escherichia coli final bacterial concentration 3×10^7 CFU·ml^{-1}, and observe at 35℃ for 18h. The highest drug dilution concentration that does not grow is the minimum inhibitory concentration of the drug (MIC, based on the amount of crude drug)
A rat model of vaginitis was established. Rats with successful infection were randomly divided into 12 groups: gynecological ice snake gel, ointment, suppository large, medium and small dose groups, gynecological ice snake cream large, medium, Small dose group. Eight rats in each group, another 8 infected rats were used as model group, and 8 normal rats were used as control group. Continuous administration for 7 days. The effects of each drug-administered group on experimental bacterial vaginosis caused by mixed infection with Staphylococcus aureus and Escherichia coli were compared. In the guinea pig antipruritic test, the total amount of histamine administered was the itch threshold when the guinea pig was turned back to the right hind paw. The itch threshold was recorded and compared.

Results and discussion
The in vitro release of the three formulations is shown in Figure 1. The MIC values of Gynecological Ice Snake Gel, Ointment and Suppository against Staphylococcus aureus and Escherichia coli are shown in Figure 2. The itch threshold of guinea pig induced by phosphatidylamine in various dosage forms of gynecological ice snake cream is shown in Figure 3. The therapeutic effects of various dosage forms on bacterial vaginosis in rats are shown in Figure 4.
**Fig 1** In vitro release of four dosage forms

**Fig 2** In vitro bacteriostatic test results (MIC, mg·ml⁻¹)

**Fig 3** The itch threshold of guinea pig induced by phosphatidylamine in various dosage forms of Gynecological Ice Snake
Therefore, Gynecological Ice Snake Gel, Ointment and Suppository all have antibacterial effects in vitro, and have good antibacterial, anti-inflammatory and antipruritic effects in mice.

Compared with the traditional cream, the gel, ointment and suppository after changing the dosage form are convenient for patients to use, and are not easy to contaminate the clothes. At the same time, they have good therapeutic effects on bacterial vaginitis, and it is hoped that after late study, it may become a market. Competitive gynecological drugs provide a new reference for clinical application of gynecological inflammation. The 19th National Congress of the Communist Party of China clearly stated that socialism with Chinese characteristics has entered a new era. The unique medical, cultural, economic, and ecological resources of traditional Chinese medicine have become increasingly important in the development of modern society. Therefore, it is very valuable to fully tap the value of traditional Chinese medicine. Necessary, the reform of traditional dosage forms can better advance with the times, better applied to the clinic, and better play the maximum efficacy of traditional Chinese medicine.

References
Protective effect of astragalus polysaccharides on acute liver injury induced by concanavalin A in rats

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Abstract
To investigate the protective effect of astragalus polysaccharides (APs) on acute liver injury (ALI) induced by concanavalin A (Con A) in Sprague-dawley (SD) rats. 72 SD rats were randomly divided into 6 groups: control group, model group, low-, medium-, and high-dose (15, 30, 60 mg·kg⁻¹) APs groups, positive group (bifendate; 42 mg·kg⁻¹). APs groups and positive group were given with corresponding drugs by ig administration once daily for 30 days. Control group and model group were given with normal saline (10 mL·kg⁻¹) by ig administration once daily for 30 days. After 6 hours of the last ig administration, Con A (20 mg·kg⁻¹) was injected via the tail vein to induce ALI in all the rats except control group. 12 hours later, blood, liver and spleen samples were collected for calculating the indexes of liver and spleen in each group and detecting the levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST) and lactate dehydrogenase (LDH). The results showed that compared with model group, the bifendate and APs could significantly or extremely significantly (P<0.05 or P<0.01) reduce the indexes of liver and spleen and the levels of ALT, AST and LDH. It is confirmed that APs have a protective effect on ALI induced via Con A in rats, and the protective effect of APs at the dose of 60 mg·kg⁻¹ is the most obvious.

Key words: Astragalus polysaccharides; Acute liver injury; Concanavalin A

Objective
To verify whether APs have protective effect on ALI induced through Con A in rats.

Materials and methods
72 rats (180-220 g; Purchased from Liaoning Changsheng Biotechnology Co., Ltd.) were randomly divided into 6 groups: control group, model group (Con A was purchased from Sigma, USA), low-, medium-, and high-dose (15, 30, 60 mg·kg⁻¹) APs (Purchased from Shanghai Yuanye Biotechnology Co., Ltd.) groups, positive group(42 mg·kg⁻¹; Bifendate pills were purchased from Zhejiang Wanbang Pharmaceutical Co., Ltd.). APs groups and positive group were given with corresponding drugs via ig administration once daily for thirty days. Control group and model group were given with normal saline (10 mL·kg⁻¹) through ig administration once daily for thirty days. After six hours of the last ig administration, Con A (20 mg·kg⁻¹) was injected via the tail vein to induce ALI in all the rats except control group. Twelve hours later, all the rats were weighed. Subsequently, 7 % chloral hydrate solution was injected intraperitoneally (4 mL·kg⁻¹) for anesthesia. Next, five milliliter of blood was collected from the abdominal aorta using a one-time vacuum without anticoagulant. After forty-five minutes, the blood sample was centrifuged at 4 °C for fifteen minutes, and then the supernatant was absorbed to obtain rats serum. Finally, the levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST) and lactate dehydrogenase (LDH) in serum were detected by automatic biochemical analyzer; the tissues of liver and spleen of rats were weighed, and then the indexes of liver and spleen were calculated.

Results and discussion
As shown in Table 1 and Table 2, compared with control group, the indexes of liver and spleen and the levels of ALT, AST and LDH in model group were extremely significantly increased ($P<0.01$); compared with model group, both positive group and APs administration group could significantly or very significantly ($P<0.05$ or $P<0.01$) reduce the indexes of liver and spleen and the levels of ALT, AST and LDH; Among them, the indexes of liver and spleen and the levels of ALT, AST and LDH of positive group and high-dose APs group were closer to control group.

Table 1 Effect of APs on the indexes of liver and spleen in rats with ALI ($\bar{x} \pm s$, $n = 12$)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Liver index/%</th>
<th>Spleen index/%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>3.04 ± 0.07</td>
<td>0.35 ± 0.02</td>
</tr>
<tr>
<td>Model group</td>
<td>4.13 ± 0.12##</td>
<td>0.75 ± 0.07##</td>
</tr>
<tr>
<td>Positive group</td>
<td>3.19 ± 0.18**</td>
<td>0.39 ± 0.04**</td>
</tr>
<tr>
<td>Low-dose group</td>
<td>3.51 ± 0.11*</td>
<td>0.53 ± 0.05*</td>
</tr>
<tr>
<td>Medium-dose group</td>
<td>3.38 ± 0.14*</td>
<td>0.49 ± 0.03**</td>
</tr>
<tr>
<td>High-dose group</td>
<td>3.24 ± 0.20**</td>
<td>0.41 ± 0.03**</td>
</tr>
</tbody>
</table>

Note: ##$P<0.01$ vs control group; **$P<0.01$ *$P<0.05$ vs model group; the same below

Table 2 Levels of ALT, AST and LDH in rats serum of each group ($\bar{x} \pm s$, $n = 12$)

<table>
<thead>
<tr>
<th>Groups</th>
<th>ALT (U/L)</th>
<th>AST (U/L)</th>
<th>LDH (U/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>32.57 ± 1.63</td>
<td>100.09 ± 9.15</td>
<td>927.35 ± 63.06</td>
</tr>
<tr>
<td>Model group</td>
<td>75.81 ± 3.95##</td>
<td>368.24 ± 33.14##</td>
<td>1567.87 ± 62.71##</td>
</tr>
<tr>
<td>Positive group</td>
<td>40.02 ± 3.20**</td>
<td>120.05 ± 10.80**</td>
<td>986.34 ± 49.32**</td>
</tr>
<tr>
<td>Low-dose group</td>
<td>49.87 ± 3.99*</td>
<td>140.26 ± 7.01*</td>
<td>1037.69 ± 52.85*</td>
</tr>
<tr>
<td>Medium-dose group</td>
<td>45.30 ± 1.84*</td>
<td>129.87 ± 8.96**</td>
<td>1020.03 ± 81.60*</td>
</tr>
<tr>
<td>High-dose group</td>
<td>42.13 ± 2.11**</td>
<td>126.11 ± 6.31**</td>
<td>990.02 ± 29.77**</td>
</tr>
</tbody>
</table>

Thus, APs can significantly improve the liver function of rats with ALI induced via Con A and significantly regulate the enzyme activity in serum. However, the intervention mechanism of APs on ALI induced through ConA in rats still needs to be further explored.

References:
2. YUAN Cong-wen. Research on the protective effects of APS against adverse effects produced by $\beta$-CP on liver of mice[D]. Changchun: Jilin University, 2017.

Research progress on the relationship between intestinal flora and AIDS

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Abstract
The intestinal flora is a complex ecosystem with a symbiotic relationship with the host, and its stability is related to a series of indicators of the body. Human immunodeficiency virus can infect the balance of the intestinal microenvironment, causing changes in the intestinal flora, and the progression of AIDS is closely related to changes in the intestinal flora. Decreased proportion of probiotics in intestinal microbes can reduce intestinal metabolic function and immune function in AIDS patients, so improving intestinal micro-ecological system has become an important direction for AIDS treatment research[10].

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**Keywords:** Intestinal flora; Immunodeficiency disease; AIDS

**Objective**

By studying the relationship between gut flora and AIDS, it provides new ideas for further explaining the mechanism of action of AIDS and treating or delaying the progression of AIDS.

**Materials and Method**

Screening and exploring the relationship between AIDS and gut microbiota in recent studies in the gut flora and AIDS treatment and related fields. Determine the link between the pathogenesis of AIDS and the intestinal flora disorder.

**Results and conclusions**

Numerous studies have found that human immunodeficiency virus (HIV) infection is associated with changes in the intestinal bacterial community. The massive reduction of intestinal probiotics and the excessive proliferation of harmful bacteria in AIDS patients create a favorable local microenvironment for the growth of pathogens and promote the disease progression of AIDS. Studies have confirmed that probiotics can also enhance the intestinal mucosal barrier function, destroy the group effect of pathogenic bacteria, and interact with intestinal epithelial cells and mucosal lymphocytes to enhance the autoimmune effect of AIDS patients and reduce the mortality caused by complications. Intestinal bacterial translocation refers to the process of intestinal bacterial and bacterial compounds translocating from the intestinal lumen into the mesentery or other extraintestinal organs. The main cause of intestinal bacterial translocation in AIDS patients is caused by changes in the composition of the intestinal flora. Intestinal barrier and mucosal barrier dysfunction\(^2\). We characterized the intestinal virion and bacterial microbiota in some patients with AIDS. Low peripheral CD4\(^+\) T cell counts were found to be associated with amplification of intestinal adenoviral sequences, and this increase was not associated with ART treatment. At the same time, it was also found that the intestinal bacterial microbial group of patients with low CD4\(^+\) T counts showed lower phylogenetic diversity, and specific bacteria showed differential abundance, including an increase in Enterobacteriaceae bacteria associated with inflammation. Therefore, the immunodeficiency of progressive HIV infection is associated with changes in the gut virion and bacterial microbiome, which will contribute to AIDS-related bowel disease and disease progression\(^3\).

In summary, excessive growth of intestinal harmful bacteria, increased intestinal mucosal permeability and impaired immune function can promote disease progression in AIDS patients. To study the relationship between the intestinal flora and the body of AIDS patients, and to discover that the changes in the compositional diversity of the intestinal flora affect the normal physiological functions of the host. Therefore, the intestinal microbial diversity and functional characteristics of AIDS patients are studied. It will provide a reliable basis for an in-depth study of the role of intestinal flora changes in the prevention and treatment of AIDS disease progression and AIDS.

**References**


Application and prospect of DNA fingerprinting in the field of traditional Chinese medicine

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Abstract
Traditional Chinese medicine is becoming more and more popular in the world because of its long clinical practice. The efficient analytical separation tool is very important to study the properties and quality control of traditional Chinese medicine. Due to the complexity of traditional Chinese medicine ingredients, it is difficult to characterize them with traditional single technology, and many new technologies have gradually emerged, which are an advanced and effective method to obtain accurate and complete fingerprints. In this paper, an example of a new DNA fingerprint is presented and discussed.

Key words: Traditional Chinese medicine compound preparation; Fingerprint; Research progress; DFP

In the 1980s, British geneticist Jefferys et al. first used isolated small satellite DNA as a gene probe, hybridized with the enzymized fragment of human nuclear DNA, and obtained a hybridized band pattern spectrum with different length composed of alleles on multiple sites, which was called "DNA fingerprint, (DNA fingerprint, DFP). DNA fingerprinting technology has the characteristics of multi-locus, high specificity and stable heritability. It is based on the difference of biological DNA sequence polymorphism, namely restricted fragment length polymorphism (Restriction Fragment Length Polymorphism, RFLP). This is mainly due to the acquisition or loss of a restriction enzyme recognition site caused by the mutation of the base of some DNA sequences, which is manifested as different length of enzyme fragments.

Objective
The development and application of DNA fingerprinting in traditional Chinese medicine were discussed.

Materials and methods
According to PubMed database, 15 DFP technologies have been applied in traditional Chinese medicine research, and many new technologies, such as DNA analysis technology, including RAPD, ISSR and AFLP, have been found in the research.

Results and discussion
DFP was used to characterize Chinese medicinal materials at the molecular level, and was not affected by environmental factors, morphology, source, etc., so as to identify the original medicinal materials directly. It is often used in the screening stage of raw materials in the early stage of Chinese medicine preparation. Zhipeng Zhang et al. [¹] used psba-trnh sequence to track the species of cortex phellodendri and distinguish between cortex phellodendri guanxi and cortex phellodendri. HPLC verified the experimental results and found that DFP was better than HPLC in identifying genetically similar species. Puyue Ouyang et al. [²] used SSR technology (microsatellite DNA) to label patchouli and found 45 polymorphism markers in 38 plants of the genus patchouli. This study was the first to conduct comprehensive analysis of the SSR markers of the genus patchouli, providing reference for the establishment of the fingerprint of the genus patchouli. Lei ana et al. [³] used sequence correlation amplification polymorphism (SRAP) molecular marker technology to screen out 22 pairs of primer combinations in cymbidium plantatifolia from huangdi, and found 6 specific markers through the combination of primers to establish the DNA fingerprint of cymbidium plantatifolia from huangdi. With the development of DFP, the amount of information...
and specificity will gradually increase, the accuracy of detection will be higher, and DFP will be more widely used in traditional Chinese medicine.

References:

Application of ISSR Molecular Marker Technology in Germplasm Identification of Medicinal Plants

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Abstract: ISSR is a DNA marker technology that is detected by PCR amplification. The basic principle is to use the anchored microsatellite DNA as a primer, and use the primer to perform PCR amplification on the DNA sequence of the reverse-arranged SSR. Study the differences between different materials based on the relative position of the bands. With the rapid development of molecular biology, ISSR is widely used in germplasm identification of medicinal plants by virtue of its high polymorphism, high stability and high reproducibility.

The selection of three ISSR and seven SCOT primers by molecular marker method can be rapidly identify the seeds of Senna obtusifolia and Senna occidentalis according to the specific band and UPGMA dendrogram[1]. ISSR was used to analyze 21 accessions of Lonicera japonica Thumbin four provinces. A total of 267 polymorphic bands were generated by screening eight ISSR primers, and the polymorphism rate was 98.16%. 21 accessions were identified as two main clusters with the UPGMA dendrogram[2].

The types of medicinal plant resources in China are complex and diverse. As the primary link in the quality control process of medicinal materials, how to find scientific and effective identification methods is particularly important. ISSR has injected new vitality into the germplasm identification and resource development of modern medicinal plants, but as a new application method, it needs high requirements for experimental instruments and operators. With the continuous improvement of molecular identification, ISSR molecular marker technology will have a broader development prospect, which complements the advantages of traditional methods and promotes the research process of germplasm identification.

Key words: Germplasm identification, ISSR, Medicinal plants, Polymorphism

References:

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Application of flow cytometry in the development and innovation of traditional Chinese and Russian medicine

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Abstract
Flow cytometry (FCM) is a new analytical technique and sorting technique developed in the 1970s, which can quickly measure the cellular or subcellular structure. The initial technique of FCM analysis is only used in the fields of cytology, cytogenetics and molecular biology. With the continuous innovation of FCM, it is also promoting the development and innovation of traditional Chinese and Russian medicine. In the following, the application of FCM in traditional Chinese and Russian medicine research in recent years is reviewed.

Key words: flow cytometry (FCM), traditional Chinese and Russian medicine, development and innovation, application

Objective
Examples of the application of flow cytometry in the development and innovation of traditional Chinese and Russian medicine are given.

Materials and methods
Flow cytometry, cytology, cytogenetics, molecular biology, immunology and other methods were used to study the effects of traditional Chinese medicine on cancer cells and cell apoptosis, also to detect the exogenous small molecule harmful pollution of traditional Chinese and Russian medicine.

1. Introduction and basic principle of FCM
Flow cytometry (FCM) is an advanced biomedical instrument developed on the basis of photoelectron technology, laser technology, fluorescence chemistry, monoclonal antibody technology and computer technology. When the sample to be tested, under the control of fluid flow and pressure, is surrounded and restrained by sheath fluid, the cells will be ejected in a single row from the nozzle of the flow pool at a high speed to take shape cell column fluid. When it pass through instrument testing area, the cells in the column of fluid in cells under the incident laser beam generate forward scattering (FSC) light and side scattering (SSC) light, if with will also launch a particular wavelength of fluorescence labeled [such as fluorescein isothiocyanate (FITC)], the optical signal by photoelectric conversion, method and computer analysis system after processing with special number stored data flow analysis. After thousands or even millions of cells are collected by instrument, these data need to be read and analyzed by corresponding analysis software, finally a flow analysis report is formed. Therefore, the number of FCM has the following characteristics: (1) single-cell analysis (2) multi-parameter analysis (3) high throughput (4) qualitative and quantity analysis (5) sorting function cell sorting.

2. Application of FCM technology in traditional Chinese and Russian medicine on cancer cells and apoptosis
In traditional medicine previous studies have shown that, many single herbs or compounds herbs have strong anti-cancer effects, such as (-)-β-elemene, allicin, etc. However, the action site and molecular mechanism of the drug are not clear. Zhang WW research, application of cell culture technology, with different concentrations of drugs to deal with MFC - 7 cells in a certain period of time, determined by MTT method, the application of flow cytometry technology, research and the cell cycle change p 53 protein expression, results show that the triterpenoids of traditional Chinese medicine Ursolic Acid(UA) dose dependent inhibition of MCF - 7 cell proliferation, half of the growth inhibition dose (IC50) of 22.6±3.0 μmol/L, increased apoptosis promoting factor p53 protein expression, there are typical apoptotic morphological features, to edge pycnosis, nuclear transfer have apoptotic body. Therefore, UA plays an anti-tumor role by inhibiting the growth of MCF-7 cells and up-regulating the expression of p53 to induce apoptosis.
3. Application of flow cytometry for TCM syndrome differentiation

Tang Xudong et al research [7], the immunological indexes of peripheral blood of patients with kidney-yang deficiency and kidney-yin deficiency were detected by FCM. Discriminant analysis method to establish a discriminant equation of Aplastic Anemia (AA), objective quantification of TCM syndrome types in patients with kidney-yang deficiency and kidney-yin deficiency type, also compares and analyses the related immunological indexes selected CD45RA⁺ absolute value, CD3⁺CD25⁺ absolute value, CD3⁺CD25⁺(%), CD3⁺HLA-DR⁺ absolute value and CD4⁺γdT(%) the five significant immune index, found that patients with kidney-yin deficiency type immune disorder degree is heavier. Discriminant analysis method is applied to set up AA discriminant equation of the syndrome differentiation of medicine each to objective quantification of AA, proved that the kidney-yin deficiency type patients clinical manifestation is heavier, the degree of immune disorders of patients with kidney-yin deficiency type, provided objective basis for AA of traditional Chinese medicine and material basis, but also reflect the inner link to the pathogenesis of TCM syndrome differentiation and AA immunology.

4. Application of FCM in detection of exogenous small molecule contamination in traditional Chinese and Russian medicine

Flow cytometry technique combined with microspheres with antibodies or other specific receptor in food, medicine, environment, and use the products can realize multiple immunoassay, small molecules exogenous harmful pollutants levels showed many advantages such as fast detection, measuring parameters, more conducive to effective monitoring and management of poisonous harmful pollution present situation and the residual levels. Xiao Changbin [8] established a fast and sensitive method to detect the Ochratoxin A (OTA) content in malt of traditional Chinese medicine using FCM technique. The IC50 of OTA was 1.20ng/mL, 2 positive samples were detected in 16 actual malt samples, and the highest OTA content was 3.83 μg/kg. It is consistent with LC-MS/MS results. Compared with the ELISA method, it is more simple, rapid, sensitive and reliable.

Results and discussion

The examples in this paper are limited. In addition, flow cytometry is also widely used to detect the influence of Chinese medicine on cell phenotypes before and after treatment, as well as the application of Chinese medicine in the study of cellular multi-drug resistance, and the study of Chinese medicine drug detoxification. With the deepening of the flow cytometry technology research, more powerful proved that traditional medicine between China and Russia made significant progress, overcome the problems of subjective difference treatment, at the same time proved that the flow cytometry analysis technology in an important position in traditional medicine development innovation process between China and Russia, it also marks the modern research of traditional Chinese medicine has been into the cellular and molecular levels [9].

References:

Abstract
Glycyrrhizic acid antagonizes the nephrotoxicity induced by tripterygium glycosides in rats, which may be related to increasing the expression of P-glycoprotein and MRP2 genes. The combination of the two drugs can accelerate the excretion of toxic components and achieve the effect of antagonizing nephrotoxicity.

Key words: Tripterygium polyglycosides; glycyrrhizic acid; nephrotoxicity; gene expression

Long-term or overdose use of tripterygium glycosides can trigger more severe nephrotoxicity[1]. Glycyrrhizic acid can significantly reduce the pharmacokinetic parameters of triptolide and triptonide, which are toxic components of tripterygium glycosides, and accelerate their metabolism and excretion in vivo[2].

Objective
To explore the antagonistic effect of glycyrrhizic acid on the nephrotoxicity induced by tripterygium glycosides and the mechanism at the transporter coding gene level and provide theoretical basis for the combined use of the two drugs in the treatment of renal diseases and even other diseases.

Materials and methods
Male SD rats were randomly divided into the blank group, glycyrrhizic acid group, tripterygium glycosides group and combined (glycyrrhizic acid combined with tripterygium glycosides) group. All rats were treated for 28 days continuously. At 12 hours after the last administration, blood was collected and kidneys were collected. The biochemical parameters BUN and Crea in serum of each group were determined using kits, respectively, and the differences in the data of each group were compared. Then real-time PCR reaction was performed to calculate the relative expression of mdr1a, mdr1b and MRP2 genes and the differences were compared.

Results and Discussion
Compared with tripterygium glycosides group, the values of BUN and Crea in combination group decreased significantly (P < 0.01) and the relative expression of mdr1a, mdr1b and MRP2 in combination group increased significantly (P < 0.01). The combination can significantly reduce the serum BUN and Crea in rats, which shows that glycyrrhizic acid can antagonize the nephrotoxicity caused by tripterygium glycosides in rats. Tripterygium glycosides combined with glycyrrhizic acid can significantly induce the expression of mdr1a, mdr1b MRP2 genes, which can accelerate the excretion of toxic components from kidney and antagonize the nephrotoxicity.

References
The influence of traditional Chinese ethical culture on hospice care

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Abstract:
The purpose of hospice care is neither to treat diseases or prolong life nor to accelerate death, but to improve the quality of patient survival. With the development of China’s aging population, people's desire for quality of life and their desire for death with dignity have increased. The traditional ethical culture of China for thousands of years has had a profound impact on the attitude of future generations towards hospice care. This paper analyzes the impact of traditional ethical culture on hospice care.
Key words: traditional Chinese ethical culture, hospice care
Objective:
In the traditional Chinese ethical culture, the most taboo is the word "death", especially for hospitalized patients. In Confucian culture, death is often associated with such derogatory words as ominousness and whammy. Therefore, people often avoid talking about death. Confucius said, "If we can't deal with people, how can we deal with ghosts?" "If we don't know life, how can we know death?"

It can be seen that Confucius, the Confucian sacred master, also evaded the issue of life and death. Modern people are mostly influenced by traditional ideas and customs. They are unwilling to talk about death. Many family members often conceal their illness from patients, and the patients even do not know the truth until they pass. Zheng Yueping’s survey found that only 20.6% of the people agreed that “I am willing to tell the patient when he is about to die”. In a culture that taboos talking about death, hospice care services cannot be developed. [1]

Results and discussion
Confucianism believes that "The filial piety is the foundation of morality, and education is born from it." Mencius Wanzhang also said that "filial piety is the most important thing to respect one's relatives"." Filial piety" has become the highest standard of behavior, affecting people's medical activities and customs. In many critically ill elderly patients, when treatment and rescue have little meaning, in order to reflect filial piety, children still actively rescue them regardless of the opposition of the elderly. This excessive medical treatment not only wastes a lot of human and financial resources, but also makes dying patients suffer from tremendous pain. Hospice care is difficult to implement under the influence of this filial thought, and the quality of life and dignity are difficult to maintain [2].

In the process of its emergence and development, Chinese traditional medical ethics is deeply infiltrated and influenced by traditional Chinese culture. In the care of dying patients, we should take into account the traditional ethical and cultural factors of our country and explore the establishment of a hospice care model suitable for China's national conditions.

References:

Summary of research on three common methods of inducing osteoporosis

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Abstract:

There are many causes of osteoporosis, which are characterized by the reduction of bone tissue. In Chinese medicine, it belongs to the category of low back pain, osteophytes, kidney deficiency, labor, snoring, and bones. Osteoporosis often occurs in childhood, menopause, and the elderly. Osteoporosis is often accompanied by pain, hunchback, fractures, and even decreased respiratory function, leading to a decline in people's living conditions. Therefore, the study of this model is essential for the treatment and prevention of this disease. There are three methods commonly used in the commonly used osteoporosis modeling methods, namely oophorectomy, retinoic acid induction, and glucocorticoids. This paper reviews the methods and characteristics of the three models.

Key words: Osteoporosis; Ovariectomy; Retinoic acid; Glucocorticoid

Osteoporosis is one of the common diseases in the elderly. As the world's population ages, the number of people sick increases, and prevention of this disease is already one of the major problems in the world. Therefore, animal models have an irreplaceable position in the study of prevention, diagnosis and treatment of osteoporosis.

Ovariectomy:

Adult animals have reduced estradiol during menopause, and the bone mass of cancellous bone is reduced, similar to that of menopause. Osteoporosis and bone loss in animals after ovariectomy are similar to those in humans. Therefore, the ovariectomized animal model is currently the most commonly used animal model of postmenopausal osteoporosis, similar to clinical postmenopausal osteoporosis[1]. This model is suitable for the study of female menopause and elderly middle-aged osteoporosis induced by rapid decline in hormone secretion. In the study of female menopause leading to osteoporosis, the use of female rats has an advantage. Studies have found that devascularized rat bone marrow mesenchymal stem cells (MSCs) to differentiate into osteoblasts and the ability to differentiate into adipocytes may be associated with the occurrence of postmenopausal osteoporosis[2].

This model has a wide range of sources, rapid modeling, and easy access to materials, but oophorectomy will cause trauma to the rat body, and after normal menopause, the ovary also has a secretory function. Therefore, rats after ovariectomy have differences from normal menopausal people. This will cause some interference with the study of osteoporosis caused by decreased hormone levels.

Retinoid:

Retinoic acid is a derivative of vitamin A used to treat leukemia. Retinoic acid can reduce the activity of normal human osteoblasts, inhibit the proliferation of osteoblasts, and inhibit the production of ALP, osteocalcin and interleukin-6[3]. Retinoic acid can damage the rat ovaries, leading to a decrease in the secretion of estrogen and a decrease in the amount of estrogen in the body. The model of osteoporosis with retinoic acid has simple operation and short modeling time, and symptoms of osteoporosis appear in about 2 weeks.

Glucocorticoid:

Glucocorticoids primarily affect sugar, fat and protein metabolism and are regulated by ACTH. Reduce the absorption of calcium and phosphorus in the intestine and increase excretion. Long-term application will inhibit the activity of bone cells and promote bone resorption, resulting in bone formation less than bone resorption and eventually osteoporosis. The drug for glucocorticoid-induced osteoporosis is generally dexamethasone acetate. Studies have found that male and male SD rats were injected with dexamethasone for 8 weeks and found that male rats were more successful than female rats. Because estrogen can promote bone formation, while inhibiting bone resorption, protects the bone metabolism process. Therefore, when using glucocorticoid to induce osteoporosis model, male rats should be used to avoid estrogen interference.

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Abstract
The dried whole grass of the genus Acanthus ilicifolius, a mangrove plant of the genus Acanthus ilicifolius, has the effect of clearing away heat and detoxifying, eliminating swelling and dispersing knot, relieving cough and relieving asthma, mainly treating lymph node enlargement, acute and chronic hepatitis, hepatosplenomegaly, stomachache, cough, asthma and so on.

Keywords: Acanthus ilicifolius, extraction process, 2-benzoazoxolinone

Some studies have shown that the content of 2-benzoazoxolinone in Acanthus ilicifolius is high. Therefore, the extraction process of 2-benzoazoxolinone from Acanthus ilicifolius in Jiangping Town, Guangxi was studied by high performance liquid chromatography (HPLC).

Objective
In order to develop and use the resources of the red tree plant, the extraction process of the index component of the acatellaria, Benzoazolinone, was studied, which provides the reference for the quality standard and the future research.

Materials and methods
The content of 2-benzoazolin was determined by the method of methanol reflux extraction, and the four factors and three level orthogonal experiments were used to study it.

Result and discussion
The results showed that the main factors affecting the extraction of 2-benzoazolin were A>D>C>B, that is, methanol concentration (%) > extraction times > ratio of material to liquid(g/mL) > reflux time (h). The best extraction condition of 2-benzoazoline is A3B1C3D2, that is, the ratio of material to liquid is 30% methanol solution for 4 times (1:15), and the time is 1h.

Reference

LC-Q-TOF MS in Traditional Chinese medicine

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Abstract
Traditional Chinese medicine is an excellent traditional culture of the Chinese nation, with a history of thousands of years and rich cultural deposits. In recent years, the development of traditional Chinese medicine has attracted more and more attention and favor from the international community.
community due to its small toxic and side effects, overall conditioning and treatment based on syndrome differentiation, the export scope and export volume of traditional Chinese medicine show a good trend, so the detection technology of traditional Chinese medicine also put forward higher requirements. LC/MS is a high sensitivity analytical method for liquid chromatography as a separation system and mass spectrometry as a detection system. Through several changes, LC/MS has developed into a mature technology, which has been widely used in drug analysis, food inspection and biochemical analysis.

**Keywords:** liquid chromatography-quadrupole/time-of-flight mass spectrometry; traditional Chinese medicine

**Introduction**

Han L[1] used UPLC/ Q-TOF-MS/MS technology to detect magnolia officinalis extract. 14 compounds were detected in the anion mode, among which 9 were lignins. 24 compounds were detected in the positive ion mode, 13 of which were identified as alkaloids by elemental analysis. Sun[2] used HPLC-ESI-Q-TOF/MS technology to study the ingredients in jinqi jiangtang tablet. Through reference of reference materials, characteristic fragment ions and retention time, Sun finally confirmed 52 ingredients in jinqi jiangtang tablet. This study is the first time to identify the ingredients in jinqi jiangtang tablet, which will be helpful for the confirmation of active ingredients and quality control in future studies. Lian HY[3] used UPLC-Q-TOF MS technology to analyze and compare the samples of radix peoniae alba and radix peoniae alba decoction pieces, and used principal component analysis and orthogonal partial least squares discrimination analysis for data statistics. Meanwhile, compared with standard products, the accurate mass/charge ratio analysis of first-level mass spectrum and the fragment analysis of second-level mass spectrum were used for component identification. The results showed that oxidized peoniflorin and peonidione were the most important difference compounds in the decoction of red peony and white peony respectively. LC-Q-TOF MS is used to compare the chemical composition differences of western drugs, which can provide useful hints for understanding their pharmacological differences to some extent, and the separation, screening and identification of active ingredients in traditional Chinese medicine can not only clarify the basis of pharmacodynamic substances, but also explain the essential conditions for the mechanism of action. By using HPLC-Q-TOF/MS technology, Lin YJ[4] studied the changes of chemical components of radix aconite and roasted radix glycyrrhiza after compatibility. It was found that 4 ingredients from roasted liquorice and 28 ingredients from aconite were identified from the middle finger of the decoction, but there were significant differences in the types and amounts of alkaloids compared with the single decoction of aconite, which laid a foundation for the exploration of effective (toxic) substances of aconite.

**Summary**

The development of traditional Chinese medicine has gone through the evolution from single medicine to compound preparation, and the core position in this historical evolution is the effective material basis of traditional Chinese medicine, that is, the effective ingredients of traditional Chinese medicine with clinical effect. Elucidation of these active ingredients is the basis of exploring the efficacy and quality safety of traditional Chinese medicine[5]. LC/MS combines the physical analysis capability of liquid chromatography with the quality analysis capability of mass spectrometry, which not only improves the sensitivity but also expands the application scope, laying a foundation for the internationalization of traditional Chinese medicine and the inheritance of traditional culture.

**References**


**Studies on chemical constituents from the flowers of datura metel l.**

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**Abstract:** **Purpose:** This study mainly focused on chemical constituents of DATURA METEL.L.

**Methods:** Ten kilo of dry DATURA METEL.L flowers obtained from Heilongjiang University of Chinese Medical were selected, divided and identified. **Results and conclusion:** Finally the study found a new chemical compound belonged to Ashwagandha Extract, which are named by DATURA METEL.L., DATURA METEL.R., palmitic acid, naphthisoxazol A and phenergen respectively.

**Keywords:** Datura metel L; Chemical constituent; Withanolides; Fatty acid; Coumarin

Flos Daturae is the dry flower of *Datura metel* L. which belongs to the family of Solanaceae[1]. It is a famous traditional Chinese medicine for centuries and has strong physiological activity. It has been used for the treatment of relieving asthma andcough, antispasmodic and analgesic, and the effect of anesthetic in China, and also has been listed in Chinese Pharmacopoeia (2010). In recent years, the study of datura flower is more comprehensive in domestic and foreign scholars, clinical application of datura flower preparations have been made effect in the treatment of psoriasis. By studying the datura flower, we known that the effective parts of treating psoriasis are determined as the water soluble component without alkaloids. The two types of active ingredients are flavonoids and withanolides, and the biological activity of latter is strong[2-3].

D-941 macroporous resin is the best one to separate the effective chemical composition, flavonoids mainly adsorbed on macroporous resin can be eluted with 1% NaOH solution. 14 compounds have been isolated from the alcohol wash layer with silica gel, ODS column chromatography and HPLC.And 5 compounds have been identified their chemical structures by chemical and spectroscopy evidence,such as 1H-NMR、13C-NMR、DEPT、1H-1H COSY、HMBC、HSQC and NOESY combined with HR-ESI-MS.They are baimantuoluoside L (1a,3a,7α,12α-tetrahydroxy-(20S,2R)-witha-5,24-dienolide–3-O-β-D-diglucopyranoside)(1), baimantuoluosideM(3a,7α-dihydroxy-(20S,22R)-witha-27-O-β-D-diglucopyranoside5,24-dienolide)(2), Palmitic acid(3), naphthisoxazol A(4), Isofraxidin (6,8-dimethoxy-7-hydroxy coumarin)(5). Compound 1 and 2 are new compounds, called baimantuoluoside L and baimantuoluoside M.

The research has eventually obtained new chemical constituents with original structures, and proved the reasonable of the macroporous resin’s screening and optimization meanwhile, enriched the content of Flos Daturae withanolides chemical constituents. It is also provided the necessary material basis for the pharmacodynamic studies, quality evaluation, clinical application of Flos Daturae withanolides.

**Reference**
Analysis of correlation of cervical HPV infection with TCM constitution and psychological state

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Abstract:
Background and Objective: Cervical cancer is one of the most common malignant tumors in gynecology, and the only cancer to date the cause of which is identified. According to the data analysis of the tumor registry in various regions of China, the incidence of cervical cancer in China has increased in recent years, and presents a trend of continuously getting younger. Infection of human papillomavirus (HPV) is a necessary condition for the onset of cervical cancer, and HPV virus infection of genital tract can be detected in 99% of patients with cervical cancer. Thus it can be seen that the effective treatment of cervical HPV infection is an urgent problem to be solved at present. In this paper, the TCM constitution and psychological state of patients with cervical HPV infection and HPV negative women are surveyed through questionnaire to explore the susceptibility of women with different constitutions to HPV, and investigate the psychological state of patients with HPV infection and the correlation between those three so as to provide some help for the prevention and treatment of cervical HPV infection in the future.

Methods: Patients received treatment in the gynaecological clinic of the First Affiliated Hospital of Heilongjiang University of Chinese Medicine and the Third Affiliated Hospital of Harbin Medical University (Tumor Hospital) from April 2018 to April 2019 were recruited by utilizing cross-sectional study method. 80 patients meeting the inclusion criteria for HPV infection were divided into observation group, and 80 HPV-negative women without other diseases were divided into control group. Questionnaire survey is carried out on the basic situation, constitution and psychological state of the patients enrolled. An EXCEL database is created, and the data are imported to SPSS25.0 software for analysis.

Results:
1. The results of statistical analysis indicate that the general situations (age, education and occupation) of the case group and the control group have no significant difference (P>0.05).
2. The independent sample test, factor exploratory analysis and binary logistic regression analysis of TCM constitution of 160 participants show that there is a significant correlation between TCM constitution and the prevalence of HPV infection. Among which, the people with yang-insufficiency constitution, qi-stagnation constitution and qi-insufficiency constitution are positively correlated with cervical HPV infection and susceptible to cervical HPV virus; and the people with mildly constitution are negatively correlated with cervical HPV, and not susceptible to cervical HPV virus.
3. The statistical analysis of the SCL-90 questionnaire of 160 participants shows that depression, interpersonal relationship, obsessive-compulsive symptoms and anxiety have a significant correlation with the prevalence of HPV infection. Patients with HPV infection have psychological problems such as anxiety, depression, interpersonal sensitivity and obsessive-compulsive symptoms.
4. The analysis of constitution distribution of 80 patients in HPV infection group in abnormal psychological state shows that the people with qi-stagnation constitution have multiple abnormal psychological states which are mainly interpersonal sensitivity (23.07%), obsessive symptoms (21.15%), anxiety (20.19%) and depression (18.27%). The next is people with qi-insufficiency constitution whose abnormal psychological states are mainly anxiety (23.21%), interpersonal sensitivity (21.42%), depression (19.64%) and obsessive symptoms (17.86%). Then are people with yang-insufficiency constitution whose abnormal psychological states are mainly

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Effect of Electroacupuncture Combined with Yuyin Pill on Cytokines in Patients with Decreased Ovarian Reserve Function

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Abstract
The symptoms of DOR include delayed menstruation, low menstrual volume, amenorrhea and infertility. The symptoms of DOR include hot flashes, night sweats, insomnia, anxiety, depression, vaginal dryness, sexual pain, osteoporosis and decreased libido. These symptoms seriously affect women's reproductive health and quality of life, so we should detect and treat DOR as soon as possible to solve women's reproductive health problems. In this study, basic FSH, LH, E2, FSH/LH, INHB and AMH were selected to evaluate the therapeutic effect of DOR patients. The FSH values measured on the 2nd to 3rd day of the menstrual cycle in the early follicular phase are considered to be the basic FSH. In this experiment, ELISA was used to detect the levels of serum hormones in patients with DOR before and after the treatment of acupuncture plus pok9@p Yuyin pill, and the difference was analyzed by syndrome integral and statistics.

Key words: electroacupuncture; decreased ovarian reserve function; inhibin B; antimullerian hormone M.

Modern medicine mainly treats DOR with estrogen and progesterone replacement therapy, ovulation induction therapy, assisted reproductive technology and assisted symptomatic treatment, immunotherapy, antioxidant therapy, low dose aspirin, growth hormone addition therapy, etc. The curative effect is general and side effects are greater.

Traditional Chinese medicine has unique advantages in regulating menstruation, so it is necessary to discuss the treatment of DOR with traditional Chinese medicine. Acupuncture and moxibustion therapy is a simple, convenient, natural, effective and non-side-effect treatment method. Therefore, this experiment selected acupuncture to treat DOR, Taixi nourishes kidney-yin, Sanyin Jiaotong tonifies liver and kidney, returns, and has no side effects. Uterine removing blood stasis and dredging cellular collaterals, Guanyuan benefiting kidney, tonifying Chongren, intermediate Tongtong regulating Chongren Qi, Zusanli tonifying Qi and blood, combined with acupoints, play the role of tonifying liver and kidney and tonifying Chongren. Yuyin Pill, a preparation in our hospital, consists of cooked Rehmannia glutinosa, yam, Paeonia lactiflora, Dipsacus, mistletoe, Eucommia ulmoides, Achyranthes bidentata, cuttlebone, oyster, Atractylodes macrocephala and Polygonum multiflorum. Among them, ripe earth, yam and peony can tonify the interpersonal sensitivity (20.00%) and obsessive-compulsive symptoms (20.00%), and the number of people with depression and anxiety is about 17.5%, which is greater than that of people with other psychological states.

Conclusion: 1. Patients with cervical HPV infection show a phenomenon of biased constitution accumulation in the distribution of TCM constitution. The common constitutions are qi stagnation, qi deficiency and yang deficiency; the people with mildly constitution are negatively correlated with cervical HPV infection and not susceptible to cervical HPV virus. 2. Patients with cervical HPV infection have psychopathological problems such as obsessive-compulsive symptoms, anxiety, depression and interpersonal sensitivity. 3. The abnormal psychological states of people with qi-stagnation constitution among patients with cervical HPV infection are mainly relationship sensitivity, obsessive-compulsive symptoms, anxiety and depression; the people with qi-insufficiency constitution mainly have anxiety problem; the people with yang-insufficiency constitution mainly have problems of interpersonal sensitivity and obsessive-compulsive symptoms.

Key words: cervical HPV infection; TCM constitution; psychological state.
kidney and nourish the blood; Dipsacus, Eucommia ulmoides and Achyranthes bidentata have the effects of tonifying liver and kidney, strengthening muscles and bones, and leading blood down. The whole recipe plays the role of tonifying liver and kidney, nourishing yin and latent yang.

Therefore, we choose to treat DOR of liver and kidney yin deficiency syndrome by Yue-electro-acupuncture combined with Yuyin pill.

Objective
To observe the effects of acupuncture combined with Yuyin Pill on TCM syndromes and related endocrine hormones (basic follicle stimulating hormone (bFSH), basic luteinizing hormone (bLH), basic estradiol (bE2), FSH/LH, Inhibitor B (INHB) and Anti-Mullerian Hormone (AMH)) in patients with Decreasing ovarian reserve (DOR) of liver and kidney yin deficiency syndrome to lay a clinical foundation for the future application of acupuncture in this disease.

Materials and Methods
40 patients were divided into Electro-acupuncture + Yuyin Pill group and placebo acupuncture + Yuyin Pill group, 20 in each group. Electro-acupuncture points Guanyuan, Taixi, Sanyinjiao, Zusanli, Taichong, Return, Uterus and Zhongji. The needle was retained for 20 minutes, three times a week, and the needle was stopped during menstruation. Yuyin pills were given orally. The placebo needle plus traditional Chinese medicine group was non-acupoint superficial needling. Both groups were treated continuously for 3 months. The changes of serological indexes and clinical symptoms were observed before and after treatment.

Results and discussion
In terms of curative effect, the total effective rate and marked effective rate of Electro-acupuncture + Yuyin Pill group and placebo acupuncture + Yuyin Pill group were (90.00%/65.00%) and (35.00%/5.00%), two group with significant difference (P < 0.01). In improving clinical symptoms (regulating menstrual volume, menstrual blood quality and systemic symptoms). Compared with placebo needle + Yuyin Pill group, Electro-acupuncture + Yuyin Pill group improved significantly (P < 0.01). There was significant difference in improving clinical symptoms before and after acupuncture between the two groups (P < 0.05). Serum hormone level: There were significant differences in FSH, LH and E2 between the two groups (P < 0.01), and the FSH/LH ratio had significant differences (P < 0.05). There was only significant difference in LH and E2 between the two groups (P < 0.05). In terms of cytokines, there were significant differences in INHB and AMH between in two groups (P < 0.01) and there were significant differences in INHB and AMH between the two groups (P < 0.05).

As a result, it was noted that compared with the placebo needle + Yuyin Pill, the Electro-acupuncture + Yuyin Pill can significantly improve the general condition and menstruation of the patients and the level of endocrine hormones, and has advantages in LH and E2. It also indicating that Electro-acupuncture + Yuyin Pill has better curative effect on treating DOR, alleviating menstruation and systemic symptoms of DOR patients, and improving ovarian function.

Thus, Electro-acupuncture plus Yuyin pill and comfort needle plus Yuyin pill can improve the menstrual volume, menstrual blood chromatin, systemic symptoms, hormone level and cytokine level of DOR patients, and the effect of Electro-acupuncture plus Yuyin pill is slightly better than that of comfort needle plus Yuyin pill.

References:
Advances in the Pathogenesis of Steroid-induced Femoral Head Necrosis

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Abstract
Steroid-induced femoral head necrosis (SONFH) in young adults has been a challenging disease due to the frequent occurrence of femoral head collapse and consequent hip dysfunction and quality of life impairment. After a long period of in-depth research, scholars believe that long-term and extensive use of hormones is a definite cause of femoral head necrosis, and its pathogenesis is not very clear. So far, the accepted theories include lipid metabolism disorder theory, insufficient blood supply theory, the inflammation and cell apoptosis theory and the gene polymorphism and non-coding RNA theory. The occurrence of steroid-induced femoral head necrosis (SONFH) may be the result of multiple pathogenesis.

Key words: Steroid-induced necrosis of the femoral head; Pathogenesis; Review

Femoral head necrosis is a potentially devastating disease, often leading to femoral head collapse and hip osteoarthritis [xxv]. Glucocorticoids (GC) are the leading cause of nontraumatic femoral head necrosis, which occurs in up to 40% of patients after long-term use. Glucocorticoid-induced osteonecrosis is a mechanism that affects bone remodeling and initiates a series of events leading to bone collapse. By studying and comparing the accepted theories of pathogenesis of steroid-induced femoral head necrosis, experts and scholars have studied the theories of lipid metabolism disorder, insufficient blood supply theory, the inflammation and cell apoptosis theory and the gene polymorphism and non-coding RNA theory.

1. Theory of lipid metabolism disorder
Subcutaneous fat mobilization is increased by GC. With the extension of the duration of administration, the level of lipid tends to increase, which leads to abnormal lipid distribution, fat embolism in microvessels, fat accumulation in medullary cavity, fat cell volume increase, and medullary pressure increase. GC can also affect the microcirculation in bone, leading to lipid deposition in bone cells, which causes these cells to die. ONFH has two main mechanisms, which are caused by hormone-induced lipid metabolism disorders: microvascular fat embolism and osteocyte fat deposition [xxvi]. Abnormal lipid metabolism is a strong risk factor for nontraumatic ONFH, and high triglyceride levels are important risk factors for SONFH in patients with systemic lupus erythematosus who require high doses of prednisolone. Lipid testing can be used as a screening tool for noninvasive ONFH in high-risk patients, including those who are heavy users of alcohol and hormones [xxvii].

2. Insufficient blood supply theory
In the 1970s, the diffuse intravascular coagulation theory of osteonecrosis was proposed, and diffuse intravascular coagulation was considered to be the direct cause of ONFH [xxviii]. Pathological examination of the femoral head revealed intravascular thrombosis in some SONFH patients. Levels of membrane particles increased significantly after treatment with methylprednisolone, suggesting...
that increased levels of membrane particles may be associated with hypercoagulability in microcirculation, thrombosis and inflammation, and play an important role in SONFH[xxx]. In SONFH patients, the number and function of early endothelial progenitor cells and endothelial cell colony forming cells were impaired, and the significantly reduced capacity characteristics may reflect their different roles in SONFH endothelial dysfunction[xxx].

3. The inflammation and cell apoptosis theory

Increased osteoblasts and osteocyte apoptosis have been demonstrated in mice, and GCs recipients and glucocorticoid-induced osteocyte apoptosis can uniquely disrupt the mechanosensory function of the osteocyte network, thus initiating the unstoppable sequence of events leading to the collapse of the femoral head. Gene expression levels of BCL2 and Bax, which regulate mitochondrial mediated apoptosis pathways, were different in dexamethasone and hypoxic environments. The apoptosis pathway of osteoblasts mediated by mitochondria is due to the combined effect of dexamethasone and hypoxia environment, and the inhibitory factors of BDNF have protective effects on apoptosis. The apoptosis of SONFH patients up-regulated the expression of caspase 3 through signal transduction and transcription activator 1 (stat-1) expression and activation, and the stat-i-caspase 3 pathway plays a key role in the development of SONFH[xxx].

4. The gene polymorphism and non-coding RNA theory

Recently, molecular biology has developed, and gene polymorphism and non-coding RNA have become the focus of medical attention, which are widely considered as key regulatory factors in the development of various diseases[xxxii]. A literature-mined network analysis revealed that 5 upregulated genes, including the parathyroid hormone receptor 1, vitamin D (1,25 Dihydroxyvitamin D3) receptor, collagen, type II, α1, proprotein convertase subtilisin/kexin type 6, and zinc finger protein 354C were associated with ONFH, which may provide novel targets for diagnosing and treating SONFH[xxxiii]. Although only a small fraction of the human genome encodes proteins, biological functions do play a role. The so-called junk genome is increasingly considered to be involved in the post-transcriptional regulation of gene expression. Recently, there has been increasing evidence that non-coding rnas are directly involved in the pathogenesis of many orthopedic diseases, such as osteosarcoma, osteonecrosis, osteoarthritis and osteoporosis[xxxiv].

Discussion

The occurrence and development of SONFH is caused by multiple factors, including environmental factors, genetic factors and external factors. In view of the pathogenesis of SONFH, scholars have carried out researches in various directions and put forward many theories. Although the exact pathogenesis of SONFH is still unknown, the occurrence and development of SONFH may be the result of the combined effects of these several pathogenesis. Based on the research results presented in the existing evidence, SONFH prevention has been greatly helped, such as rational use of hormones, appropriate exercise, taking lipid-lowering drugs, regular blood viscosity examination, and reliable gene detection. Prevention is the best treatment, and I believe that through unremitting efforts, this problem will be overcome.

Research progress on immunomodulatory effects of ginsenoside

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Abstract

Most plants of Panax L. have a long history of using as Chinese herbal medicine and health care products, such as Panax ginseng, P. notoginseng and P. quinquefolius admixture. They have many pharmacological activities: enhancing immunity, antitumor, anti-aging, anti-radiation, anti-fatigue and so on. A large number of studies have shown that they are related to its many biologically active
substances, for example: ginsenosides, peptides, amino acids, plant sterols, organic acids, etc. Among them, ginsenoside is the most studied active substanceto date and has significant physiological activity[1], and they are all triterpenoid saponins, mainly divided into three types: ginsenosideol-type (type A), including Rb1, Rb2, RC, Rd, Rh2, etc. ginsenosidetriol-type (type B), including Re, Rf1, Rg1, Rg2, Rhr, etc. oleanolic acid type (C type), such as Ro, Rh3, Rf4, etc[2]. The immune regulation mechanism is the key to maintaining the stability of the body environment, and ginsenoside has biphasic immune regulation. Through such immune organs (thymus, spleen), immune cells (macrophages, dendritic cells, NK cells, etc.), cytokines (TNF-α, IFN-γ, IL-2, IL-6, IL-12, etc.) and other ways to prevent the body's various adverse reactions caused by low immune function, stimulate the body to restore normal immune function[3]. Although the current in vitro and vivo animal experiments and clinical trials have confirmed the immunomodulatory effects of ginsenosides from the three major components of the immune system, there are few studies on the action of ginsenosides (transmembrane delivery of drug information), so future research should be further extending to such aspects as ginsenosides through which signaling pathways work, It will provide a more scientific reference for ginsenosides to be widely used in clinic to prevent and treat related immune diseases, and provide a theoretical basis for the development and utilization of Panax L. resources in Northeast China and Far East Russia.

Key words: Ginsenosides; immunomodulatory effects; Advances in research;

References:

Progress of berberine in the prevention and treatment of endometrial carcinoma in polycystic ovary syndrome from the point of view of inflammation

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Abstract: Objective: To investigate the research progress of berberine in the prevention and treatment of endometrial carcinoma associated with polycystic ovary syndrome from the point of view of inflammation, in order to provide theoretical basis for clinical prevention and treatment of related diseases.

Methods: The key words were "Inflammation", "Polycystic ovarian syndrome", "Endometrial Cancer", "Berberine" and so on. By searched and screened the literature and reports on the correlation between inflammation and polycystic ovary syndrome and endometrial cancer as well as the anti-inflammatory mechanism of berberine in PubMed, cnki, wanfang, weipu and other databases from 2000 to 2018 were reviewed and analyzed.

Results and conclusion: Inflammation is an important risk factor for in patients with polycystic ovary syndrome. Inhibition of the expression of inflammatory factors may be one of the targets for the prevention and treatment of EC induced by PCOS. By reviewing the literature in recent years, it
is found that berberine can inhibit the overexpression of inflammatory factors, thus reducing the occurrence of EC in patients with PCOS. Therefore, it is of great clinical significance to explore berberine intervention in the prevention and treatment of endometrial lesions in PCOS patients, and to provide theoretical basis for guiding the clinical treatment and prevention of endometrial lesions in PCOS patients.

Keywords: Inflammation; Polycystic ovarian syndrome; Endometrial Cancer; Berberine

References:

Therapeutic Observation of Yuan - primary and Luo - connecting Meridian Smoothing Needling Method Combined Auricular Application Pressure with for Insomnia with Heart - and - Kidney - not - Harmonized Type

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Abstract
Sixty cases were randomly divided into a observation group and a control group, with 35 cases in each group. The observation group was treated by yuan - primary and luo - connecting meridian smoothing needling method combined with auricular application pressure and the control group was treated by auricular application pressure combined with Estazolam. After one course of treatment, the total effective rate of the experimental group was 97.1%, which was higher than 74.3% of the control group. There was a significant difference between the two groups (P < 0.05). Yuan - primary and luo - connecting meridian smoothing needling method combined with Auricular Application Pressure for insomnia with heart - and - kidney - not - harmonized type has a good clinical efficacy, and the curative effect is better than auricular application pressure combined with Estazolam.

Keywords: Yuan - primary and luo - connecting meridian smoothing needling; auricular application pressure; Heart-and-Kidney-not-Harmonized Type; Insomnia

Insomnia can be defined as a subjective experience of unsatisfactory sleep time or quality and affecting daytime function, mainly manifested as difficulty in falling asleep, difficulty in maintaining sleep or poor sleep quality. Insomnia not only affects people's normal working and living conditions, such as anxiety, depression, tension, difficulty in concentrating and memory
loss. In this study, it has significant effect in improving sleep quality and prolonging sleep time. The present report is as follow.

**Objective:** to observe the clinical efficacy of the treatment of yuan-primary and luo-connecting meridian smoothing needling method combined with auricular application pressure for insomnia with heart-and-kidney-not-harmonized type.

**Materials and methods**

The subjects were 60 insomniacs with heart-kidney disjunction admitted to the outpatient department of acupuncture and moxibustion of the Second Affiliated Hospital of Hefei University of Traditional Chinese Medicine. The treatment group was treated with Yuan-primary and luo-connecting meridian smoothing needling combined with auricular application pressure: (1) auricular application pressure: Baihui, Danzhong, Guanyuan, Neiguan, Shenmen, Taixi, Feiyang, Taibai and Fenglong were selected at the supine position. After routine disinfection of local acupoints, 0.40mm x 40mm needle was used for routine acupuncture, twisting manipulation was performed, and needle retention was 30 minutes after Qi was obtained. (2) auricular application pressure: Shenmen, sympathy, endocrine and subcortical, after routine disinfection at the ear points, Wang Buluxingzi sticking with appropriate size is selected and applied to the corresponding acupoints, and the point is massaged for 5-6 minutes. The intensity is based on the patient's local sensation of soreness, numbness, pain and fever. The patient is instructed to massage 2-3 times a day by himself, and the ear sticking is replaced once a day. The control group was treated with auricular acupoint sticking combined with oral salbutamol. (1) auricular application pressure: acupoint selection, operation and treatment time were the same as those in the observation group; and (2) Oral salbutamol: oral salbutamol 2 mg. All the above treatments were given once a day, 14 days as a course of treatment, a total of one course of treatment.

**Results and discussion**

After one course of treatment, 12 cases were cured, 14 cases were improved and 9 cases were ineffective in the control group. Of the 35 children in the experimental group, 18 were cured, 16 were improved and 1 was ineffective. The total effective rate of the experimental group was 97.1%, which was higher than that of the control group (74.3%). There was a significant difference between the two groups (P < 0.05). Insomnia is called "insomnia" in traditional Chinese medicine. Its basic pathogenesis is Yin-Sheng-Yang deficiency, Yin-Yang disjunction, or Yin-deficiency and can not accept Yang, or Yang-Sheng and can not enter Yin. The former Yuan-primary and luo-connecting meridian smoothing needling is based on the theory of "subject-object original meridian matching acupoint method". By increasing the main points of Ren Du's two meridians to play the effect of dredging meridians, the former refers to the point of Ren Du's two meridians to communicate Yin and Yang, coordinate the fourteen meridians and stimulate the dredging of Zang Fu organs and meridians[1]. The original acupoint is closely related to the original Qi of the viscera, which is mainly used for the treatment of related viscera diseases. The collateral point is the place where the collaterals separate from the meridian. In addition to treating the diseases of the collaterals, the collateral point can also treat the diseases of the external and internal meridians[2]. Shenmen is the original point of the Heart Meridian, Neiguan is the heart envelope point, two points are compatible to calm the mind and tranquilize the mind, remove troubles and depression, and treat insomnia; Taixi is the original point of the Kidney Meridian, Feiyang is the collateral point of the Bladder Meridian, two points are compatible, nourish the kidney and nourish the kidney and peiyuan; the above four points are used together to nourish yin and kidney, and to nourish the heart, and to tranquilize the mind and kidney. In this study, auricular acupoints were selected to collect heart, kidney, shenmen, sympathy, endocrine and subcortex, in which heart and Shenmen were selected to calm mind, heart and kidney were selected to communicate heart and kidney, to communicate Yin and yang; insomnia patients with chronic illness often suffered from neurasthenia and endocrine disorders, so sympathy and subcortex were chosen to regulate the state of excitement and inhibition, and endocrine was selected to regulate the body's endocrine level in order to "cure". The merit of "not sick"[3]
The intervention mechanism of Bushenhuatan prescription on ovarian GSK3β overexpressed rats

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Abstract:
Ovarian insulin resistance is associated with the disease phenotype of PCOS. In this study, we established an ovarian local GSK3β gene overexpression rat model to investigate the relationship between abnormal glucose metabolism signal pathway and steroid hormone synthesis in ovary. We also evaluated the effect of traditional Chinese medicine Bushenhuatan prescription on ovarian insulin resistance model rats, at the same time. The results proved that ovarian GSK3β overexpression promoted ovarian cell apoptosis rate, the serum testosterone level and related aromatase mRNA expression. Bushenhuatan prescription intervention did not affect the apoptosis rate and molecular expression of PI3K pathway but activated the PPARγ-LXRα signaling pathway to decrease serum androgen levels in a dose-dependent manner. From these results we draw the conclusion that the activity changes in ovarian insulin signaling pathways may directly lead to the change of ovarian steroid hormone synthesis ability. Bushenhuatan prescription reversed the abnormal ovarian steroid hormone synthesis through PPARγ-LXRα signaling pathway but not PI3K.

Key words: PCOS; GSK3β; insulin signal pathway; Steroid hormone synthesis; Bushenhuatan prescription

Objective
To investigate the effect of rats ovarian GSK3β gene overexpression on ovary function and the intervention effect of bushenhuatan prescription.

Methods
30 SD rats aged 9-10 weeks were randomly divided into 5 groups: control group, GSK3β gene overexpression group, low dose bushenhuatan prescription group, medium dose bushenhuatan prescription group, and high dose bushenhuatan prescription group. After anesthesia, the rats of control group were given 10μ L normal saline injection in the ovarian capsule, and the rest were given 10μ L Lentium-Gsk3β virus solution with titer of 1*10⁹ TU/mL, in the ovarian capsule. The remaining 5 rats were given normal saline or Lenti-GFP virus solution in the ovarian capsule as negative and positive control. From the second day after Lenti - GSK3 beta virus Injection, the rats of low dose bushenhuatan prescription group were given 0.75 ml concentrated drug + 2.25 ml saline
by gavage, the rats of medium dose bushenhuatan prescription group were given 1.5 ml concentrated drug + 1.5ml saline by gavage, the rats of high dose bushenhuatan prescription group were given 3.0 ml concentrated drugs by gavage and the control group and GSK3β beta overexpression group were given 3.0 ml saline by gavage. ALL rats were given gastric intragastric administration twice daily for 15 consecutive days. The expression level of GSK3β in ovarian tissue was detected by immunohistochemical staining after drug administration; the apoptosis rate of ovarian cells was detected by TUNEL staining; Real-time quantitative PCR and western blot were used to detect the mRNA and protein expression level of apoptosis-related factors, insulin signaling pathway factors, steroid hormone synthesis key enzymes and PPARγ-LXRα signaling pathway in ovarian tissue; Serum levels of testosterone, progesterone, estradiol, FSH and LH were detected by ELISA.

Results and discussion

Compared with the control group, the ovarian GSK3β overexpression and the bushenhuatan prescription gavage treatment had no significant effect on the ovarian morphology, though ovarian GSK3β protein expression elevated after Lentium-Gsk3β virus injection, there were no significant differences in ovarian morphology, mean follicular number and luteal number.

The overexpression of GSK3β in the ovary leads to the increase of the apoptosis rate of the ovary cells, while the treatment of bushenhuatan prescription had no significant influence on the apoptosis rate of the ovary cells. Though GSK3β is a key factor of PI3K pathway, regulating glucose metabolism. But the key factors’ (AKT, P110, IRS-1) mRNA and protein expression of PI3K pathway did not significantly change after Lentium-Gsk3β virus injection. Meanwhile, the bushenhuatan prescription gavage treatment also had no significant effects on the mRNA and protein expression level of the key factors of the insulin signaling pathway.

Hyperandrogenemia is one of the main clinical manifestations of PCOS patients, as the main source of ovarian androgens in women, the relationship between ovarian insulin signaling pathway and steroid hormone synthesis has not been clarified. In our research, we found the expression level of steroid hormone synthase CYP17a1 and HSD3β mRNA in ovarian tissue was increased by ovarian overexpression of GSK3β and the serum testosterone level was also significantly increased.

The bushenhuatan prescription could activate the PPARγ-LXRα signaling pathway, reduce the expression levels of CYP17a1, HSD3β mRNA and serum androgen level in a dose-dependent manner. Though the bushenhuatan prescription decrease serum androgen level, but it had no significant effects on PI3K pathway of the ovarian GSK3β overexpressed rats

The increased expression of GSK3β gene in PCOS ovaries might be the result of abnormal insulin signaling pathways in the ovary rather than the direct cause of ovarian pathological changes in PCOS patients. Bushenhuatan prescription may regulate the clinical phenotypes of abnormal glucose metabolism and reproductive endocrine disorder in PCOS patients through different therapeutic mechanisms.

References:

Effect of berberine on proliferation and migration of in vitro pterygium cells via regulating mitochondrial activity

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Abstract:

Pterygium is one of the common epibulbar disease diseases with high recurrence rate. In this study, we treated pterygium fibroblasts cultured in vitro with berberine to investigate the effect of berberine on proliferation and migration of in vitro pterygium cells and to study the pharmacological mechanism of berberine on pterygium. The results proved that berberine inhibited pterygium cell proliferation and migration ability by activating mitochondrial apoptosis pathway and AMPK pathway. We also found berberine promotes mitochondrial depolarization in a dose-dependent manner. Changes in mitochondrial function are closely related to cell apoptosis and activation of AMPK signaling pathway. Berberine may regulate the in vitro pterygium cell mitochondrial activity to affect apoptosis and cell migration ability.

Key words: Pterygium fibroblasts; Berberine; Cell migration; apoptosis; Mitochondrial depolarization

Pterygium is a serious epibulbar disease and easily occurs in outdoor workers. In clinic, pterygium is manifested as benign fibrous connective tissue proliferation under the conjunctiva, which can cover the pupil area and cause diminution of vision. The occurrence of pterygium is related to environmental stimuli, and environmental pollution promotes the occurrence of such epibulbar diseases. At present, pterygium is mainly treated with surgery, but the recurrence rate is high and there is no effective drug to control the recurrence. Coptis chinensis is widely used in traditional Chinese medicine for pterygium. As one of the main ingredients Berberine has been proved to inhibit the migration and induce apoptosis of tumor cells. Abnormal proliferation and migration of pterygium fibroblasts play a key role in pterygium tissue formation and recurrence. In this study, we used berberine to treat in vitro pterygium fibroblasts to observe the effect of berberine on the cell apoptosis and migration ability of pterygium fibroblasts, and the changes in the expression levels of related key factors were also detected.

Objective: to investigate Effect of berberine on proliferation and migration of in vitro pterygium cells.

Methods: Pterygium tissue harvested from patients with pterygium excision of pterygium lesions. After excised by clinical surgery, pterygium tissues were preserved in normal saline and brought back to the laboratory for operation within 1h. After washed by PBS for 3 times, the tissue was incubated with 50 \(\mu\)M dispase at 37\(^{\circ}\)C for 1h. After the incubation, the tissue was cut to pieces and
digested by 0.25% trypsin at 37 °C for 5 mins. The cell suspensions were filtered using a 40 M cell sieve. The isolated cells were cultured with DMEM (containing 10% fetal bovine serum) at 37 °C and 5% CO2 condition. After 3-5 passages, these cells were used for subsequent research. The cultured cells were stained with vimentin and keratin, only the cells stained positive for vimentin and negative for keratin were used for further application.

Before the formal experiment, berberine with the concentration gradient from 2 μ M to 200 μ M was added to the culture medium, the changes of cell viability after 24h of berberine treatment at different concentrations were detected by CCK8 method. Then we confirmed the IC50 value of pterygium fibroblasts cultured with berberine for 24h was 83.22 M. So we randomly divided pterygium cells cultured in vitro into four groups: the control group (Final concentration of berberine is 0 μ M), the final concentrations of berberine in the other three groups were 20 μ M (25% IC50), 40 μ M (50% IC50), and 80 μ M (IC50), respectively. Equal amounts of DMSO were added into the culture medium, cells were collected for subsequent detection after 24h. The apoptosis rate was detected by FCM (flow cytometry) after PI- Annexin V-FITC stain; the Cell migration ability was detected by transwell method; Mitochondrial depolarization level was detected by FCM (flow cytometry) after JC-1 stain; Real-time quantitative PCR and western blot were used to detect the mRNA and protein expression level of apoptosis-related factors, AMPK signaling pathway factors and cell migration correlated key enzymes.

**Results and discussion**

Compared with the control group, Berberine promoted the apoptosis rate of pterygium cells cultured in vitro, with the increase of berberine concentration, the apoptosis rate increased in a dose-dependent manner.

The cell migration ability decreased with the increase of berberine concentration, which also showed obvious dose-dependent characteristics. It indicates that berberine has a significant inhibitory effect on the migration ability of pterygium cells

The apoptosis related factors BCL-2, BAX, BAD, BCL-xl and P53 mRNA expression were detected. BCL-2 and BCL-xl mRNA expression decreased; BAX and BAD mRNA expression increased, with the increase of the final concentration of berberine. However, the expression level of P53 mRNA did not significantly change with the berberine concentration. The trend of BCL-2, BAX and BAD protein expression was the same as that of mRNA expression.

The cell migration ability related factors MMP-1, MMP-2, MMP-9 and α -SMA mRNA and protein expression were detected. All of these factors’ mRNA and protein expression decreased with the increase of the final concentration of berberine.

The AMPK signaling pathway of in vitro pterygium cells was activated by berberine. The AMPK and ACC mRNA level were elevated after berberine treatment in a dose-dependent manner. The AMPK and ACC protein expression also increased with the elevation of the final concentration of berberine, while the phosphorylated AMPK and phosphorylated ACC protein played as the same trend.

From the flow cytometry results of pterygium cells after JC-1 stain, we found that the percentage of cells that undergo mitochondrial depolarization increased with the increase of the final concentration of berberine. These results suggest that berberine can directly affect the stability of mitochondrial membrane potential.

Berberine can promote apoptosis and increase the expression of BAX, BAD gene mRNA and protein. Therefore, Berberine did not affect P53 gene mRNA expression level. These results suggest that berberine induced apoptosis by activating the mitochondrial apoptosis pathway, may have no significant effect on the stability of cell DNA. Meanwhile, the in vitro pterygium cells’ migration ability and related genes’ (MMP-1, MMP-2, MMP-9) mRNA and protein expression were suppressed by berberine. The cell migration related factors expression can be inhibited by activation of AMPK pathway. In our research, we also found the elevated protein and phosphorylated protein expression of AMPK and ACC after berberine treatment.
The activation of the AMPK pathway is related to the change of intracellular ATP level. Mitochondria are the main source of intracellular ATP, and changes in mitochondrial membrane potential may affect intracellular ATP level. By je-1 staining, we found that berberine can depolarize mitochondria in a dose-dependent manner. The increase of mitochondrial depolarization level can not only affect the stability of cell energy metabolism, but also induce mitochondrial apoptosis by affecting the function of mitochondria. Berberine may induce apoptosis by regulating mitochondrial depolarization level, and decrease intracellular ATP level at the same time. The altered intracellular ATP level activates the AMPK signaling pathway, thus inhibiting pterygium cell migration.

References:

Study on TCM health management scheme in weight loss of obese young women

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Abstract:
Were introduced in this paper in the first affiliated hospital of heilongjiang university of traditional Chinese medicine to recruit 72 obese young women, through the establishment of diet, exercise and health education by the medicine of traditional Chinese medicine health management plan the intervention for 8 weeks, observe the physical index (BMI), waist circumference, changes of the basal metabolic rate (BMR), determine the weight loss of health management scheme.

Key words: health management; Medical food, exercise, health education

Obesity is a physical disease. With the increasing incidence of obesity and the trend of younger age worldwide, the number of obese people in the world will reach 1.12 billion by 2030 [1]. At present, a combination of interventions in health management can help reduce the weight of obese patients. In this study, the combined intervention of Chinese medicine diet, exercise management and health education achieved significant results in reducing the weight of obese young women.

Objective
To observe the effect of health management program of combined intervention of medicinal diet, exercise and health education on weight loss of obese young women.

Materials and methods
2.1 medicated diet intervention based on principles of spleen and clearing damp, thrift school select herbal formula, such as lotus leaf, hawthorn, dried tangerine or orange peel compatibility of herbs, herbal materials are from a certain level of first-class hospital of heilongjiang province, according to the physical characteristics of individual treatment group intervention, formulate the corresponding
medicinal food package, and packaged into semi-finished products distributed to the treatment group.

2.2 health education
Health education materials collected by referring to the 2016 dietary guidelines for Chinese residents and relevant domestic and foreign literature include four modules: balanced diet, reasonable exercise, psychological counseling, and prevention and treatment of complications. Fixed time every week by the team members to focus on teaching the health education content, and use the weekend focused on, share their experiences in weight loss, the team members give appropriate guidance, according to the patient self-management behavior of poor eating habits of the subjects in a timely manner the personalized guidance and psychological counseling, improving motivation to lose weight.

2.3 exercise intervention
It is required that the daily steps of the treatment group should reach at least 10,000 steps, and the amount of exercise and intensity should be constantly adjusted according to the exercise intensity being 70% ~ 80% of the maximum heart rate. Exercise five times a week for 45-60 minutes.

Results and discussion
After 8 weeks of intervention, the patient's body mass index (BMI) changed from 27.51±2.08 before intervention to 25.92±1.95, waist circumference changed from 94.19±6.63 before intervention to 86.11±6.27, and basal metabolic rate (BMR) changed from 1475.72±82.14 before intervention to 1417.16±73.63 after intervention. The three indicators were significantly lower than before intervention, with statistical significance (P<0.05).

The rationality of diet structure is the foundation of modern western medicine nutrition. Modern philosophy holds that reasonable diet structure is the key to ensure normal body function and prevent diseases. Obesity patients have their own eating habits and lifestyle problems, before the disease through diet adjustment prevention is the most ideal way to treat disease prevention. The characteristic function of traditional Chinese medicine diet lies in curing diseases and preventing diseases, which can improve the special taste of traditional Chinese medicine, facilitate long-term use, and not easy to bring pain to patients. Improve patients' real-time self-management behavior through health education and exercise.

The application of Chinese medicine diet therapy to nourish spleen and kidney, combined with the exercise and health education methods in modern medical health management, realized the effective combination of Chinese and western medicine in treating obesity, and achieved the satisfactory effect of self-management and evaluation on weight loss of young women, which can be popularized and applied in clinical practice.

References:

Treating viral myocarditis from the blood stasis, poison, deficiency and stages

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Abstract
Viral myocarditis is a common heart disease. This paper analyzes the effective literature on the treatment of viral myocarditis in recent years, Found Traditional Chinese medicine has unique advantages in treating this disease, and its curative effect is remarkable. This article will focus on treating the disease from the etiology and pathogenesis of "poison,blood stasis deficiency" and
syndrome differentiation. It is intended to provide an effective basis for clinical treatment of this disease.

**Key words:** Blood stasis, poison and deficiency, treatment in stages, Viral myocarditis

Viral Myocarditis (VMC) is a kind of circulatory system disease. The main pathogenesis is coxsackievirus B3 infection, which is more common in adolescents and children. The main clinical manifestations were exogenous symptoms such as fever and cough, and cardiovascular symptoms such as palpitation, chest tightness and chest pain. Through the analysis of pathogenesis and differentiation of symptoms and signs and stages of treatment, the curative effect of TCM is obvious.

**Pathogenesis**

Exogenous pathogens. Zhou Shi believed that exogenous pathogenic factors and intrusion into the heart were the important causes of the occurrence and development of the disease. Zhou Shi believed that in the five Zang organs, the lung dominates the fur and defends the outside, exogenous pathogenic factors such as heat, poison, and epidemic Qi can invade the body from human fur, mouth and nose, evil from outside, and lung Wei is the first to suffer evil. Based on this, Zhou Shi concluded that exogenous pathogens such as warm heat, toxic pathogens play an important role in the occurrence and development of the disease, and are the initiating factors.

Lack of righteousness. Zhou Shi believed that the main cause of the disease was the internal cause. Zhou Shi believed that the main causes were congenital insufficiency of endowment, deficiency of body elements, deficiency of righteousness and qi, vulnerability of external pathogens to attack the body, long time must be given up to the heart, nostalgia, consumption of Qi and Yin, loss of self-care, resulting in deficiency of both Qi and Yin and the onset of the disease, serious Yin and Yang, eventually resulting in deficiency of both Yin and Yang, and the extinction of Yin and Yang endangering life.

1.3 Blood stasis. Another important pathogenic factor for this disease. Professor Zhou Yabin believes that the production of blood stasis is mainly caused by heat poisoning, blood burning is sputum, heat poisoning is infringed, from the table into the heart, the heart is in the heart, the blood is stagnant, and it is prolonged, causing the dysfunction of the blood of the heart. The blood and blood are not running smoothly or the phlegm is phlegm, the phlegm is stopped inside, the phlegm is blocked, and the blood is blocked, so that the blood can not be properly maintained in the heart and become the disease.

**Discriminate primary and secondary treatment by stages**

Acute stage with heat toxicity as the main factor. Zhou Shi believed that the main clinical manifestations of this disease were chills, fever, headache, limb pain, palpitation, moss yellow, pulse floating number and other cardiac and exogenous symptoms. Therefore, in the treatment of viral myocarditis, Zhou Shi believed that in the early stage of treatment, the main treatment principle was to clear away heat, detoxify and eliminate pathogens.

The recovery period of heat toxicity and insufficiency of vital energy. Zhou Shi believed that the main clinical manifestations of the recovery period were palpitation, chest tightness, fatigue, spontaneous sweating (night sweating) and deficiency of both Qi and Yin. Zhou Shi believes that deficiency of both Qi and Yin is not only the internal cause of the disease, but also the inevitable result of the disease. It exists in every link of the occurrence and development of the disease. Therefore, the method of nourishing Qi and nourishing Yin should run through the whole course of the disease. Deficiency of vital energy and delay of blood stasis. Zhou Shi believed that the disease lasted for a long time, and the healthy qi was already insufficient. In addition, evil invasion led to the imbalance of qi, blood, Yin and yang, which made Jin stop as phlegm and Xue stop as blood stasis. These pathological factors were sticking together, which led to repeated prolongation of the disease but did not heal. Therefore, in the treatment, the main method was to enrich Qi and promote blood circulation.

**Concluding remarks**

Traditional Chinese medicine has a definite curative effect on viral myocarditis with little side effects. It is widely used in clinic at present. Modern medicine is mainly treated by rest,
supportive treatment and symptomatic treatment, with a general effect. Professor Zhou Yabin's thought of treating viral myocarditis by syndrome differentiation and staging of toxin and blood stasis deficiency has achieved a definite clinical effect, which is worth learning and summarizing.

References:

Effect of Sheng Sui Jian Gu Capsule on bone density (BMD) and bone mineral content (BMC) in rats with alcoholic osteoporosis

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Abstract
The incidence of osteonecrosis and fracture is increasing due to alcohol abuse and dependence. To study the changes of bone mineral density (BMD) and bone mineral content (BMC) and explore the mechanism of alcohol on bone metabolism is of great significance for the treatment of alcoholic osteoporosis. In this study, we established a rat model of alcoholic osteoporosis and observed the changes of BMD and BMC in each group at different stages to further explore the mechanism of Shengmui Jianggucapsule in preventing and treating alcoholic osteoporosis in rats, so as to provide experimental basis for clinical reference and application.

Key words: Chinese medicine and traditional Chinese medicine, alcoholic osteoporosis, invigorating the kidney and invigorating the spleen and replenishing qi, bone mineral density, bone mineral content

Alcoholic osteoporosis (AOP) [1] is a bone metabolic disease whose pathogenesis is not yet clear. Now studies have shown that long-term excessive alcohol intake can affect the balance of bone metabolism in many ways, reducing osteogenesis, increasing osteoclasts, leading to bone loss [2-4]. The most common clinical symptoms of AOP are pain in different parts and different degrees of bones and joints, often accompanied by fatigue, cramps in both lower limbs, difficulty or limitation in bending, turning over and other activities, mostly without joint swelling and deformation [5]. Alcohol affects the physiological functions of qi, blood, body fluid, viscera and meridians in the body. The liver, spleen and kidney are damaged and the muscles and bones are malnourished, therefore, AOP is located in bone and closely related to liver, spleen and kidney. The deficiency of body kidney qi is the internal cause, and excessive drinking is the direct cause of the disease [6-7]. Its main pathogenesis is deficiency of Qi and Yin, deficiency of kidney and blood stasis, and finally AOP.

Objective
To observe the effect of Sheng Sui Jian Gu Capsule on the expression of bone mineral density (BMD) and bone mineral content (BMC) in the bone tissue of rats with alcoholic
osteoporosis (AOP), and to explore the pathogenesis of AOP and the mechanism of Chinese herbal medicine from the genetic and molecular basis.

Materials and methods
Clean level adult male SD 120 rats, rats were examined for body mass, randomly normal control group, model group, control group of Western medicine and traditional Chinese medicine intervention group 4, 30 rats in each group, model with red Erguotou liquor gavage method, at the same time, respectively, Saline, calcium carbonate, Alfa D3, Sheng sui Jian gu capsules, saline gavage. After 8, 12 and 16 weeks, the bone mineral density (BMD) and bone mineral content (BMC) index of proximal femur were detected.

Result And Conclusion
PSS22.0 software was used to carry out statistical analysis (P<0.05), and T test was carried out. Model 8, 12 intervention and 16 weeks after bone density, bone mineral content index detection: model group and normal group of bone mineral density and bone mineral content is significantly reduced, and there is a significant difference (p<0.01). The results show that there are indeed drink wine osteopenia in rats, BMD and BMC decreased; the traditional Chinese medicine group and model compared group increased significantly (p<0.01); traditional Chinese medicine intervention group was better than the control group, there was statistical significance (p<0.05).

Therefore, the results showed that BMD and BMC in the model group were significantly lower than those in the control group. BMD and BMC in the model group were increased in varying degrees after the intervention of traditional Chinese medicine or western medicine, and the intervention group of traditional Chinese medicine was superior to the control group of Western medicine. This study shows that Shengsui Jiangu Capsule can improve BMD and BMC of AOP rats, inhibit bone mineral loss, enhance bone strength and prevent fracture, which is worthy of clinical application.

Reference

Experimental study on the effect of electroacupuncture on neuronal autophagy in rats with cerebral ischemia-reperfusion injury*

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Cerebral ischemia/reperfusion injury is a common pathological process after recanalization of acute cerebral infarction. After cerebral ischemia/reperfusion, a series of damage cascades are triggered, including imbalance of calcium homeostasis, toxic effects of excitatory amino acids, oxidative stress damage, mitochondrial dysfunction, inflammatory response, and programmed neuronal death and many more[1-2]. Autophagy, as a newly discovered method of programmed cell death, is of great significance for the "survival" and "death" of nerve cells after CIR[3]. The previous study of the research team found that the head has an antagonistic effect on brain injury and cerebral edema after cerebral ischemia-reperfusion[4], which can inhibit TLR4/MyD88-mediated immune inflammatory response[5], and can reduce the related withering in rat brain tissue. The expression of the dead gene, thereby inhibiting the apoptosis of nerve cells around the ischemic foci[6], has a protective effect on nerve cells and blood-brain barrier after CIR. Therefore, this study used focal cerebral artery ischemia-reperfusion (MCAO/R) model rats as the research object, and explored the effects of scalp acupuncture combined with electroacupuncture on MCAO/R rats at different time points and autophagy-related proteins. The effect of dynamic expression of LC3A/B, in order to clarify whether acupuncture exerts its antagonistic effect on CIRI by regulating autophagy of nerve cells, and provides a new scientific basis for electroacupuncture treatment of acute cerebral infarction.

Objective
To investigate the effects of electroacupuncture on the expression of autophagy-associated protein LC3A/B in the ischemic penumbra of rats with cerebral ischemia-reperfusion injury.

Materials and methods
75 Sprague-Dawley rats were randomly divided into sham operation group, model group, EA group, autophagy inhibitor 3-MA group, EA + 3-MA group five groups, according to ischemia 2h reperfusion time, each group was divided into three subgroups of IR24h, IR72h and IR7d (n=5). Each group of rats at the time of IR24h, IR72h, IR7d: The composite neurological function score, the hanging line test score and the balanced walking test score were measured respectively; The expression level of autophagy-related protein LC3A/B was detected by immunohistochemistry.

Results
1. Compound nerve function score: EA group can alleviate the signs of neurological deficits in MCAO/R rats (vs. model group, p<0.01); The 3-MA group aggravated the signs of neurological deficits in rats (vs. model group, p<0.01). The 3-MA + EA group did not significantly improve the neurological deficit in rats (vs. model group, p>0.05).

2. Immunohistochemistry results: Rats in the model group showed significant increase in LC3A/B protein expression at various time points (vs. sham operation group, p<0.05), and reached its peak at IR72h; The expression of LC3A/B protein in the EA group was significantly higher than that in the model group at IR72h (p<0.05), at the time of IR7d, the expression of LC3A/B protein was significantly lower than that of the model group (p<0.05); The 3-MA group can significantly down-regulate the expression of LC3A/B protein, the basis of the inhibitor, electroacupuncture intervention could up-regulate the expression of protein on IR72h and IR7d (vs. 3-MA group, p<0.05).

Conclusions
1. Scalp penetration acupuncture combined with electroacupuncture can significantly improve the neurological deficit of MCAO/R rats, have neuroprotective effects.

2. Scalp penetration acupuncture combined with electroacupuncture can regulate the expression of LC3A/B protein in the ischemic penumbra of MCAO/R rats, thereby regulating the
autophagy of nerve cells.

3. Scalp penetration acupuncture combined with electroacupuncture can increase the expression of LC3A/B protein in the ischemic penumbra in the early stage of cerebral ischemia-reperfusion, moderately activate the autophagy of nerve cells in MCAO/R rats, and protect the damaged neurons; In the mid-late reperfusion period, the expression of LC3A/B protein in the ischemic penumbra was decreased, and the excessive activation of autophagy in the neurons of MCAO/R rats was inhibited, thereby antagonizing further damage of neurons.

Key words
Electroacupuncture; Cerebral ischemia/reperfusion injury; Autophagy; Microtubule connexin light chain 3 (LC3)

References

Protective Effect of Acupoint Embedding on Hippocampal Neuronal Injury in Rats with Epilepsy Induced by Lithium Chloride-pilocarpine

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Abstract
Objective
To observe the protective effect of acupoint embedding therapy on hippocampal neuronal injury in rats with epilepsy induced by lithium chloride-pilocarpine.

Methods
80 healthy SD male rats were randomly divided into blank group, model group, western medicine group and embedding group, with 20 rats in each group. The epilepsy model was established by intraperitoneal injection of lithium chloride-pilocarpine. After the successful modeling, the corresponding interventions were performed for 28 days. Recorded the degree of seizure and the average seizure time for 1h after the last intervention. When the predetermined survival time was reached, the hippocampus were sacrificed in each group. The neuronal loss of the hippocampal CA1 region was observed by HE staining. The number of Capase-3 positive cells and protein expression in hippocampal CA1 area were detected by immunohistochemistry.
Results

1. The degree of seizure and the average seizure time: typical seizure signs can be observed in the model group ($P<0.01$); compared with the model group, the seizures degree as well as the the average seizure time in the western medicine group and the embedding group were significantly reduced ($P<0.05$).

2. HE staining results in hippocampal CA1 area: a large number of pyramidal cells and granulosa cells were observed in the blank group. The rats in the model group showed a decrease in the number of cells, a change in cell contour, and a deeper staining, there showed a large number of apoptotic cells; the damage degree of hippocampus cells in the embedding group and the western medicine group was significantly lighter than that in the model group, but there was still a certain gap between the tissue morphology and the blank group, a small number of apoptotic cells were visible.

3. The number of Capase-3 positive cells and protein expression in hippocampus CA1 area: Compared with the blank group, the number of Caspase-3 positive cells and Caspase-3 protein in the hippocampal CA1 area of the model group were significantly increased ($P<0.05$); after intervention, the number of positive cells and Caspase-3 protein in the embedding group and the western medicine group were significantly decreased ($P<0.05$). Among the above results, there was no difference between the western medicine group and the embedding group ($P>0.05$).

Conclusion

Epilepsy can cause neuronal damage in rat hippocampus. Acupoint embedding can slow the loss of hippocampal nerve cells, slow down the process of apoptosis, reduce the degree of seizure, and then play a role in brain protection.

Key words
lithium chloride-pilocarpine; acupoint embedding; epileptic rats; apoptosis; brain protection

Observation on the Therapeutic Effect of Acupuncture Point Application of “Winter Diseases and Summer Treatment” in Treating Stable Chronic Obstructive Pulmonary Disease

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Abstract:

Objective. To study the effect of acupuncture point application therapy with “Winter Diseases and Summer Treatment” on stable chronic obstructive pulmonary disease (COPD). Methods 100 patients with stable COPD admitted to our hospital were divided into observation group (50 cases) and control group (50 cases). For the control group, only Western medicine was used for routine treatment. The observation group used conventional Western medicine treatment combined with “Winter disease and summer treatment” acupuncture point application treatment. The treatment course was 3 years. Results The total effective rate of treatment in the observation group was significantly better than that in the control group. Conclusion On the basis of routine treatment of Western medicine, for patients with stable COPD who have been treated with acupuncture point application of “Winter Diseases and Summer Treatment”, they can achieve good therapeutic results.
Key words: Winter Diseases and Summer Treatment; Acupuncture point application; Stable chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease is a common respiratory disease in the clinic. It has the characteristics of long course of disease and easy recurrence of the disease. Most of the traditional western medicine treatment is not ideal. In order to obtain better therapeutic effect, according to the theory of “Winter Diseases and Summer Treatment”, our hospital used acupuncture point application to treat stable chronic obstructive pulmonary disease and achieved good results.

Treatment and methods

Control group: used the traditional Western medicine treatment method only, such as oxygen inhalation, theophylline preparation, as well as oral inhalation Shu Lidi twice a day.

Observation group: under the basis of conventional Western medicine treatment methods, we used the acupuncture point application therapy. The specific operation is as follows: Take white mustard(21g), Corydalisis(21g), Kansui(12g) and Asarum(12g), and the above drugs are ground into a fine powder. In the course of treatment, we take 1/3 of the total dose each time, prepared a paste with ginger juice, take 6 pieces of oil paper with a diameter of about 5cm, applied the adjusted medicine evenly on the oil paper, and then stuck it on certain acupoints on patient's including both sides of Feishu(BL 13), Geshu(BL 17), and Shenshu (BL23). We started such treatment during the dog days in summer. After 2-3 hours of affixing, the patient's skin became red and hot. It is ideal to achieve such an effect. The interval was 5-7 days when we changed the application, five times in total and 3 years for 1 treatment course.

Results and discussion

Compared with pretreatment, the total effective rate of the treatment group was 95.39%. On the basis of routine treatment of Western medicine, for patients with stable COPD who have been treated with acupuncture point application of “Winter Diseases and Summer Treatment”, they can achieve good therapeutic results.

Winter disease refers to a series of related disease syndromes that are prone to onset or aggravation in winter, repeated episodes of seizures, and eventually yang deficiency or yang deficiency. The prone people of “winter disease” are mostly yang-deficient physiques, which are commonly expressed as fearing the wind and cold, and cold hands and feet. The pathogenesis is characterized by lung-spleen qi deficiency and furthermore spleen and kidney yang deficiency, causing yin and cold sputum to stay in the lungs, thus the symptom will be intensified in winter.

The reason why “winter disease” should adopt the special treatment method in dog days is that with the natural yang of the midsummer, it has a strong evocation, and it can quickly stimulate the qi and collaterals in human body, so that the old disease can be slowly removed out.

Acupuncture point application has a long history, and deeply analyzes the treatment principle of this method, it effects mainly by taking medical treatment and acupoint stimulation, and combining these two treatment measures, in which the application of White Mustard can achieve elimination and dispelling the gasification and chilling in the lungs. The effect of Asarum is to open the chest in the air, so that the lungs are smooth, it can play a strong anti-allergy, anti-allergic reaction, and prevent the occurrence of bronchospasm. The effects of two traditional Chinese medicines, Ganzi and Corydalisis, are able to relieve the pain and disintegrate the phlegm. Ginger juice is of vital importance in it. Its efficacy is warming lung and relieving cough, phlegm as well as cold.

Among these acupoints we selected for treatment, Feishu(BL 13) that achieve the effects of opening the chest in the air. Geshu(BL 17) has the efficacy of regulating blood and removing blood stasis, so that to strengthen the body. Shenshu (BL23) is able to achieve the effect of nourishing the kidney and relieving asthma.

References

Protective effect of Yangshen Yutang Pill on myocardial damage in diabetic rats

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Abstract

Diabetic cardiomyopathy is one of the cardiovascular complications of diabetes, and its main pathogenesis includes microvascular disease, myocardial interstitial fibrosis, and myocardial cell hypertrophy. Previous studies have confirmed that Yangshen Yutang Pill has a significant improvement in diabetic myocardial injury. In this experiment, a mouse model of diabetic myocardial injury was made to observe the effects of these groups (which include the metformin group, the high- and low-dose group of Yangshen Yutang Pills and the blank group) on blood glucose, serum insulin and myocardial ultrastructure in model mice, which was to further explore the mechanism of action of Yangshen Yutang Pills in the treatment of diabetic myocardial injury.

Key words: Yangshen Yutang Pill, diabetes, myocardial damage

Diabetes mellitus (DM) long-term hyperglycemia can lead to severe target organ damage, which is the leading cause of death in DM patients. Yangshen Yutang Pill consists of Xiyangshen, Huangqi, Maidong, Guiban, Yuzhu, Shanzhuyu, Baishao, Nvzhenzi, Gegen, Shanyao, Luer, Wumei and so on, which has shown good curative effect on clinical treatment of diabetes. The original purpose of this study was to evaluate the efficacy of the drug on DM myocardial damage, and provide evidence for its clinical promotion, by which investigated the effects of Yangshen Yutang Pill on myocardial structure and myocardial microvessels in DM rats.

Objective

To observe the protective effect of Yangshen Yutang Pill on diabetic myocardial damage.

Materials and methods

A rat model of diabetic myocardial injury was established by high-sugar and high-fat diet combined with Streptozotocin (STZ). After the intervention of Yangshen Yutang Pills for 4 weeks, then detect of blood sugar and serum insulin, observe myocardial pathology by HE staining, and observe myocardial ultrastructure under electron microscope.

Results and discussion

High-sugar and high-fat diet combined with intraperitoneal injection of STZ for 72h screening of DM rats continued to be fed with high-sugar and high-fat diet for 12 weeks. After treatment, the cardiomyocytes of the model group were pathological changes of typical DM cardiomyopathy, indicating modeling methods can establish a model of diabetic myocardial injury, consistent with previous model reports.

After 4 weeks of treatment, the blood glucose and serum insulin of DM rats were significantly decreased, the pathological changes of myocardial cells were significantly reduced, which manifested as well-arranged myofibrils, no edema, fewer interstitial and fibroblasts, and no
vacuoles in mitochondria. Meanwhile there were many microvessels and no basement membrane thickening. The results showed that Yangshen Yutang Pill could improve the myocardial damage of DM.

Thus, the mechanism of myocardial protection of this drug may be achieved by hypoglycemic, improving insulin resistance, reducing myocardial cytotoxicity of hyperglycemia and hyperinsulinemia. Previous studies have shown that Yangshen Yutang Pill can enhance myocardial SOD activity, reduce MDA content, improve the antioxidant capacity of DM rat myocardium, and amend its myocardial damage. In addition, it has been reported in the literature that Astragalus polysaccharide, an active ingredient of Radix Astragali, has the effect of reducing the expression of non-enzymatic glycosylation products and myocardial local angiotensin II and its receptor. Modern pharmacological studies have also confirmed that the single-flavored medicines such as *panax quinquefolium*, *puerarin*, *astragalus*, and *ophiopogon japonicus* and their active ingredients (ginsenosides, puerarin, astragalus polysaccharides and total saponins of *ophiopogon japonicus*) all have hypoglycemic, anti-oxidative and protective effects on the myocardium.

In summary, Yangshen Yutang Pill can significantly reduce blood glucose and serum insulin in DM rats, and improve early myocardial pathological damage in DM rats, but its specific mechanism still needs further study.

References:

**Effects of Acupoint Embedding on Cognitive Behavior, Hippocampal Neuron Loss and BDNF Protein Expression in Rats with Epilepsy**

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**Abstract**

**Objective**
To observe the influences of cognitive behavior, semi-quantitative analysis of neuronal loss and the expression of brain-derived neurotrophic factor (BDNF) under acupoint embedding therapy in epilepsy rats induced by lithium chloride-pilocarpine.

**Methods**

80 healthy SD male rats were randomly divided into blank group, model group, western medicine group and embedding group, with 20 rats in each group. The epilepsy model was established by intraperitoneal injection of lithium chloride-pilocarpine. After modeling successfully, the corresponding interventions were performed for 28 days. The captive reaction experiments were performed on each group before and after the intervention. When the predetermined survival time was reached, the hippocampus were sacrificed in each group. The neuronal loss of the hippocampal
CA1 region was analyzed by Nissl staining. The immunohistochemical method was used to detect the expression of BDNF protein in the hippocampal CA1 region of each group.

**Results**

[1] The aggression behavior and escape behavior of the model group were significantly higher than those of the blank group ($P<0.01$). Compared with the model group, the aggressive behavior and escape behavior of the western medicine group and the embedding group were significantly reduced ($P<0.05$).

[2] The semi-quantitative scoring results of Nissl staining showed that there were no loss of nerve cells in the CA1 region of blank group under the light microscope, but the model group, western medicine group and embedding group had different degrees of damage. Compared with the blank group, the neuron loss in the model group was heavier ($P<0.01$). Compared with the model group, the neuron loss in the western medicine group and the embedding group was reduced ($P<0.05$).

[3] Compared with the blank group, the BDNF immunoreactive cells in the hippocampus of the model group were stained significantly, and the staining of the neurites was deepened and the expression was decreased ($P<0.05$). The expression of BDNF in the hippocampus was higher than that in the model group after intervention by Western medicine and acupoint embedding ($P<0.05$). Among the above results, there was no difference between the western medicine group and the embedding group ($P>0.05$).

**Conclusion**

Epilepsy can cause cognitive impairment in rats. Acupoint embedding can reduce the loss of hippocampal nerve cells by indirectly increasing the expression of BDNF protein. Acupoint embedding has obvious effect on improving cognitive impairment after epilepsy, the efficacy is equal with taking antiepileptic drug LEV.

**Key words**
lithium chloride-pilocarpine; acupoint embedding; epileptic rats; cognition; brain-derived neurotrophic factor

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**Effect of floating needle sweeping method on analgesia of acute cervical spondylotic radiculopathy**

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**Abstract**

Eighty patients with acute radiculopathy of cervical spondylosis admitted to our hospital from March 2019 to July 2019 were randomly divided into observation group and control group, 40 cases in each group. The observation group was treated with floating needle and the control group was treated with acupuncture. The pain assessment (VAS) and clinical treatment effects were compared between the two groups. **Result:** The total effective rate of the observation group was significantly higher than that of the control group ($P<0.05$). The pain score of the observation group was (0.86±0.23), which was significantly lower than that of the control group ($P<0.05$). No adverse reactions occurred in the two groups. **Conclusion:** The floating needle sweeping method has obvious analgesic effect on patients with cervical spondylotic radiculopathy in acute attack, and has no adverse reactions. It is an ideal treatment for cervical spondylosis of acute root attack and it is worthy of promotion.

**Key words:** Floating needle sweeping method, Acute radiculopathy, Analgesia
Acute cervical spondylotic radiculopathy is a cervical spondylosis that occurs mostly in the middle-aged and elderly people. After the onset, the vertebral body is involved in multiple stages, and there are pathological changes such as congestion and edema of nerve roots and surrounding tissues. Radioactive pain and numbness of the neck and shoulders may occur. Symptoms that severely affect the patient's health and cervical function. The author collected a total of cervical spondylotic radiculopathy in the undergraduate clinic from March 2019 to July 2019. After floating needle treatment, the patient achieved satisfactory results.

**Objective**: To analyze the effect of floating needle sweeping method on analgesia in patients with acute cervical spondylotic radiculopathy.

**Materials and methods**

80 cases were from January 2019 to July 2017. Patients with acute radiculopathy of cervical spondylosis in our department were numbered according to their time of treatment. They were randomly divided into observation group and control group by random number table method. Group 40 cases. The average age of the observation group was (48.67±7.21) years old, and the course of disease was (10.16±3.3) months. The age of the control group was (47.35±7.37) years old and the course of disease was (11.22±4.2) months. After statistical analysis, there was no significant difference in the general data between the two groups (P>0.05), which was comparable. The diagnostic criteria were prepared according to the "Guidelines for the Diagnosis and Treatment of Cervical Spondylopathy" issued by the Professional Committee of Cervical Spondylopathy of the Chinese Society of Rehabilitation Medicine (1) (2010 Edition): the criteria for the determination of cervical spondylotic radiculopathy; the cervical spondylosis was confirmed by imaging examination; Exclusion criteria: (1) those with other diseases of the spine such as osteoporosis and rheumatoid arthritis; (2) those with serious diseases of other organs; (3) those with mental or speech problems. Approved by the ethics committee of the SAR, all patients gave informed consent.

The observation group was given floating needle treatment: the needle was selected from the disposable needle provided by Nanjing Paifu Technology Co., Ltd.; the patient took the sitting position, fully exposed the affected neck and upper limbs, and routinely disinfected acupuncture points. According to the patient's complaint, the needle is placed around the most painful point. The disposable floating needle No. 6 is used. The operator's left thumb and forefinger are fixed on the skin of the needle. The right thumb, index finger and middle finger are held by the floating needle. The needle tip is inclined upwards and aligned. The most painful point, quickly penetrates the skin at an angle of 15°~30°, and advances 0.5~1.0mm. During the whole needle insertion process, the right hand feels soft and easy to enter, and the patient has no acid, hemp, swelling, pain and so on. After the needle is inserted, press the pain point to let the patient move the neck. One needle can be placed at the same time for 2~3 needles. The needle retention time is 24h. During the needle retention period, the patient can move as usual. Every 2d, continuous treatment 5 times for one cycle, continuous treatment 3 cycles.

The control group was given acupuncture treatment: the main points were the Jiaji points of the cervical vertebrae, the bilateral wind pools and the local tender points, the shoulders and sore shoulders, the Tiansong, and the headaches, dizziness, Jiayintang and Baihui. After one inch of needle is used, the needle can be applied by needle. The needle can reach the eyelid and the lower shoulder and buttocks. After acupuncture, the needle is left for 10~20min. Similarly, every 2d, continuous treatment is 5 times for one cycle. Continuous treatment 3 cycles.

Observation indicators (1) The visual analogue scale (VAS) was used to score the pain symptoms before and after treatment in the two groups. The operator operated a 0~10cm ruler, 0 was painless, and 10 was severe pain. The higher the score, the higher the score. It indicates that the more severe the pain, the clear explanation to the patient, so that the patient chooses a score to represent the pain symptoms before and after treatment; (2) Apply the Tianzhong Jingji cervical spondylopathy symptom scale 20 points from symptoms, work and life ability, signs and hands. The four parts of the function were scored with scores of 0 to 20 points. The higher the score, the more normal the cervical spine function.
Results and discussion
Efficacy comparison The therapeutic effect of the observation group was significantly different from that of the control group (P<0.05), and the total effective rate was higher than that of the control group (P<0.05), as shown in Table 1.

Table 1 Comparison of curative effects (example; %)

<table>
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<tr>
<th>Group</th>
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<th>Significant effect</th>
<th>effective</th>
<th>invalid</th>
<th>Total efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation group</td>
<td>40</td>
<td>25 (68.00)</td>
<td>11 (24.00)</td>
<td>4 (8.00)</td>
<td>36 (92.00)</td>
</tr>
<tr>
<td>Control group</td>
<td>40</td>
<td>20 (40.00)</td>
<td>14 (36.00)</td>
<td>6 (24.00)</td>
<td>34 (76.00)</td>
</tr>
</tbody>
</table>

Comparison of knee pain and functional score before and after treatment
After treatment, the neck pain scores of both groups decreased (P<0.05), and the pain scores of the observation group were lower than those of the control group (P<0.05). See Table 2.

Table 2 Comparison of neck pain scores before and after treatment ( \( \bar{x} \pm s \), points)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Before treatment</th>
<th>After treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation group</td>
<td>40</td>
<td>6.49±1.03</td>
<td>0.86±0.23( ^{a} )</td>
</tr>
<tr>
<td>Control group</td>
<td>40</td>
<td>6.51±1.00</td>
<td>1.82±0.46( ^{a} )</td>
</tr>
<tr>
<td>( t )</td>
<td></td>
<td>0.088</td>
<td>11.806</td>
</tr>
<tr>
<td>( P )</td>
<td></td>
<td>0.930</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: Compared with before treatment, a\( P<0.05 \).

Floating needle therapy is a modern acupuncture therapy based on traditional acupuncture based on traditional acupuncture. This treatment uses a disposable floating needle to loosen the skin around localized pain (mostly muscle). Acupuncture treatment of connective tissue for acupuncture activities such as sweeping is effective for soft tissue pain including cervical spondylosis. Subcutaneous loose connective tissue has good semiconductor conductivity and can transmit bioelectricity efficiently. It is a special structure and material basis for floating needles. When the floating needle sweeps away, the mechanical force can cause the spatial structure of the loose connective tissue to change. Due to the piezoelectric effect, the bioelectricity is released; when the bioelectricity is transmitted to the diseased tissue, the anti-piezoelectric effect is generated, and the ion of the cell is changed. The channel, which mobilizes the body's resistance mechanism, improves local blood circulation, and promotes the repair of soft tissues such as muscles, thereby quickly relieving the pain.

References:

Li Guifeng, Fu Zhonghua.Discussion on the Enlightenment of Floating on the Development

Acupuncture and Traditional Chinese Medicine as Treatment of oviduct Inflammatory Infertility: A clinical research

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Abstract
In this research, we spent 2 years to collect 81 patients who met the criteria in outpatients of First Affiliated Hospital of Heilongjiang University of Chinese Medicine. All of them were randomly divided into treatment group and control group, patients in control group were treated with fallopian tube infusion and acupuncture therapy, while patients in treatment group also were treated with Chinese medicine besides fallopian tube infusion and acupuncture, and the period of therapy was 3 months. At the beginning and the end of treatment, Hysterosalpingography (HSG), based on which the condition of tubal patency could be evaluated were performed, both the symptoms and signs of traditional Chinese medicine (TCM) were recorded. Then we calculated the scores according to the respective quantitative classification standard, evaluated the curative effect, and the data was dealt with by SPSS17.0. Finally, we found that the effective rate in treatment group was significantly higher than in control group.

Key words: Acupuncture, qi stagnation and blood stasis, oviduct inflammatory infertility, Gexiazhuuyu granules

Infertility refers to one have normal sexual life and no contraception for one year or more, but no pregnancy. Among many factors that cause infertility, the factor of the fallopian tube accounts for 20-35 %\cite{1}. In the view of traditional Chinese medicine, tubal inflammatory infertility is mostly caused by “stasis”. As *Shen Nong's Herbal Classics* said: “… Infertility happens because of blood stasis blocking chong and ren channels, one could be pregnant when the blood stasis is cleared.” Which means blood stasis stays in uterus and blocks it’s collaterals, affects the combination of sperm and eggs, then infertility occurs. As a mean to promote and regulate blood circulation, acupuncture has been used for the treatment to gynecological diseases in recent years. Prof. Liu treated oviduct Inflammatory infertility of qi stagnation and blood stasis type by the way of tubal fluid injection and acupuncture combined with Gexiazhuuyu granules and compared it with the way of no Gexiazhuuyu granules, aiming to find the better way for the clinical treatment.

Objective
To observe the clinical curative effect of acupuncture combined with traditional Chinese medicine in the treatment of oviduct inflammatory infertility of qi stagnation and blood stasis.

Materials and Methods
81 patients were collected and randomly divided into two groups: 39 patients were in treatment group (during the research, 4 patients were excluded and 5 patients were lost), and 42 cases in control group (during the research, 4 cases were eliminated and 8 cases were lost). The treatment group was treated with fallopian tube infusion, acupuncture with taking Chinese medicine. The control group was just treated with fallopian tube infusion and acupuncture. As for acupuncture points, we selected Guanyuan (RN4), Qihai (CV6), Zhongji (RN3), Zinggong (EX-CA, both sides), Guilai (ST29,bilateral), Zusanli (ST36,bilateral), Sanyinjiao (SP6,bilateral), Taichong (LR3,bilateral). Patients were asked to urinate before, treated with acupuncture in the supine position, and a uniform reinforcing-reducing was applied.

Results and discussion
Compared with control group, symptoms and signs in treatment group were better improved, and we can see the significant difference (p<0.05) of effective rate in the comparison between treatment group, which is 90.00%, and control group, which is 66.67%. As for the tubal patency, the effective rate was 93.33% in the treatment group which was significantly higher than 73.33% in the control group (p<0.05). And the rate of pregnancy during 1year in treatment group is 30.00%, while in control group is 6.67%, the difference was statistically significant (P < 0.05).

Gexiazhuuyu granules is changed from Gexiazhuuyu decoction which comes from Qing-Wang Qingren’s “*Yilingaicuo*”, consist of Red Paeonia, Tree Peony Bar, Radix Linderae, Rhizoma Chuanxiong, Turtle Shell, Peach Seed, Fructus Aurantii, Rhizoma Corydalis, Pheretima and Cyperus Rotundus, have the effect of blood-activating and stasis-resolving. According to the earlier study, Gexiazhuuyu decoction can improve the pathological morphology of the fallopian tubes and reduce the the levels of ICAM-1and Bcl-2 in tubes, and IFN-γ, TNF-α, IL – 6 in blood in rats of oviduct inflammatory infertility\cite{3-5}, so as to take effection in treating salpingitis infertility.
The acupuncture points we selected and the operation of reinforcing-reducing can not only regulate local blood flow, but also regulate and tonify the liver and kidney, strengthen the spleen qi through three meridians of the liver, spleen and kidney, as well as strengthen the body's immune function. Foot Yangming meridian is full of gas and blood, so the points on it can promote qi and blood circulating, and help to eliminate inflammation, for example, acupuncture at Zusanli can enhance the phagocytosis of leukocytes and resist inflammatory. [5] Chong pulse is the sea of blood, while Ren pulse dominate fetus and gas passing. Unobstructed qi in Ren pulse and efficient blood in Chong pulse can make it capable to gestate the fetus.

In this study, we compared the curative effect of treatments of tubal drainage and acupuncture combined with Gexiazhuyu granules with treatment of tubal drainage and acupuncture, the results show the former have better curative effect on oviduct inflammatory infertility, which means the combination of these three parties could be a good way to treat this disease and help with pregnancy in clinic.

Reference

The effectiveness analysis of the new type of trocar in the treatment of the lumbar disc herniation

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Abstract
This paper introduces the characteristic therapy of acupuncture of the fifth department of acupuncture in the first affiliated hospital of heilongjiang university of traditional Chinese medicine——Analysis of the therapeutic effect of Lumbar disc herniation treated by the new type of trocar. This paper analyze the changes of JOA and VAS before and after treatment to verify the therapeutic effect of Lumbar disc herniation treated by the new type of trocar, and we can come to a conclusion that the new type of trocar has good effect in treating the Lumbar disc herniation, it deserves clinical promotion.

Key words: Lumbar disc herniation; the new type of trocar

Lumbar disc herniation is a kind of common and frequent clinical disease, it always causes pain in the loin and legs. Its incidence is increasing year by year, and people who
Objective
By comparing and analyzing the changes of JOA and VAS before and after treatment, to determine the effectiveness of a new type of trocar in the treatment of lumbar disc herniation.

Materials and methods
Select 52 patients with lumbar disc herniation from the fifth acupuncture department. Choose the ash point and needle under the skin range the point about 6-8 cm with the disposable subcutaneous trocar acupuncture needle that needling Trend along meridians and nerves under the skin around the Ashi points of the body surface, then make the needle do the arc swing and retain the needle.

Results and discussions
Of 52 patients, 22 patients with lumbar disc herniation are cured, account for 42.31%; Marked effective patients are 20, account for 38.46%; Get better patients are 8, account for 15.38%; Invalid 2 cases, account for 3.85%. The total effective rate is 96.15%.

The new type of trocar has the advantage of short course of treatment and quick effect. The new type of trocar can energize the skin’s Meridian Qi, promote the circulation of Qi and blood, relieve the pain. Meanwhile, the new type of trocar is easy to learn and safe, so it is easy to be accepted by doctors and patients.

References:

Observation on the effect of auricular acupoint seeding method on nursing intervention of patients with liver and kidney deficiency

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Abstract
Objective: To investigate the effect of auricular acupoint seeding method on clinical intervention of patients with hepatorenal deficiency syndrome. Methods: Forty-five patients with acute or chronic stenosis of liver and kidney deficiency were enrolled, and 22 of them were in the control group. They were given routine treatment and nursing guidance for Chinese medicine.
Twenty-three patients in the experimental group were treated with the ear acupoint seeding method on the basis of the control group. Compare the effects of the two groups. Results: There were significant differences between the two groups in the acute hospitalization days, clinical efficacy, nursing compliance and satisfaction evaluation (P<0.05). Conclusion: The ear acupoint seeding method can significantly improve the clinical symptoms of patients with liver and kidney deficiency syndrome, shorten the hospitalization days, improve the patient's self-health management compliance, and improve the satisfaction of Chinese medicine nursing service.

Key words: auricular seed; seed rickets; Chinese medicine nursing intervention

TCM syndrome differentiation of Xingyao disease is divided into Fengshen block, blood stasis and qi stagnation, phlegm and dampness, liver and kidney deficiency, qi and blood deficiency, etc. Chinese medicine treatment plan often divides it into acute phase, remission period and rehabilitation period. The treatment of skeletal diseases in our hospital is based on needle knives, acupuncture, massage, and traction. It assists traditional Chinese medicine treatment techniques such as ear acupoint seeding, sputum needle, Chinese medicine medium frequency iontophoresis, and Chinese medicine fumigation. Since the trial of the Chinese Medicine Care Program of the State Administration of Traditional Chinese Medicine, the three-care team of the Department of Orthopaedics and Trauma has applied the ear acupoint burying method to the Chinese medicine nursing intervention for patients with liver and kidney deficiency sputum, and achieved good results. The clinical effects are summarized as follows:

Data and methods

From December 2018 to June 2019, 45 patients with acute or delayed liver and kidney deficiency were admitted to the Department of Orthopaedics, a third-grade Chinese medicine hospital in Harbin, 22 of which were in the control group and 23 in the trial group. There was no significant difference in clinical data between the two groups (P>0.05), which was comparable.

The main treatment principle of the control group for rickets is Shujing Tongluo, Buyi liver and kidney, analgesic and soothing. On the basis of acupuncture, acupuncture, massage, traction and Chinese medicine treatment, the patients were given traditional Chinese medicine and health education. On the basis of the treatment of the control group, the experimental group implemented the ear acupoint seeding method and health guidance.

Ear acupoint seeding method is a traditional Chinese medicine treatment method that relies on stimulation to achieve dredge of meridians, relieve symptoms, prevent disease and cure diseases.


(2) Pressing method: assist the patient to take a comfortable sitting position. Exploring the positive reaction points of the ear acupuncture points, when the pain point is encountered, the patient will have blinking, frowning, pain, and dodge response, and ask the patient if there is heat, hemp, swelling, and pain. Disinfect the skin, use a tweezers to pick up the tape sticking with the king's seed, and stick it on the corresponding part. Press firmly and use strong stimulation for 20 to 30 seconds. Observe the local skin condition of the ear. Inform the patient to press 3 to 5 times a day, 1 to 2 minutes per hole. If the tape falls off during treatment, please inform us in time to replace the contralateral auricular operation after three days.

(3) Health guidance: lying on a hard bed, choose a suitable pillow, maintain the physiological curvature of the neck, pay attention to the neck to keep warm and avoid hanging. Insufficient liver and kidney, qi and blood deficiency should be eaten scorpion, red dates, walnuts and other yin and yin filling, nourishing liver and kidney products, avoid spicy irritants. Avoid cold foods and cold fruits.

Observation indicators

(1) The average length of hospital stay, the treatment time in the acute phase is basically 3 to 10 days. (2) The evaluation of the symptoms of impaired patients was evaluated using the evaluation form of the Chinese medicine nursing effect of the rickets, and the improvement time was 7 days. The evaluation of the nursing effect is not bad for the poor to enter the remission period.
to continue treatment. (3) Using the nursing compliance and satisfaction evaluation form to achieve the evaluation of compliance.

**Statistical analysis**

Data was processed by SPSS 17.0 statistical software. Including parameter test and non-parametric test. The measurement data were expressed as mean ± standard deviation; the count data was tested by X2; if the data was normally distributed, the paired t test was used for comparison within the group, and the one-way analysis of variance was used for comparison between groups; if not, nonparametric test was used. Let α=0.05, p<0.05, the difference is statistically significant.

**Results**

The average hospitalization time of the experimental group was shorter than that of the control group; the improvement of symptoms in the experimental group was better than that of the control group, and the compliance and satisfaction evaluation of the test group were better than the control group; the difference was statistically significant (P < 0.05).

**Discussion**

Although the clinical manifestations of the disease are numerous, the pathological changes can be attributed to the evil criminal sun, the camp is not harmonious, and the transfusion is unfavorable. The cause of the disease is usually due to the sun's camp and the unfavorable as the basic lesions. In response to this basic pathogenesis, the treatment plan should be based on reconciling the camp and relieving the muscles and relieving the muscles. This study intervened in the orthopedics nursing team of our hospital by applying the ear acupoint seeding method. The research proves that the use of traditional Chinese medicine nursing technology can significantly improve the clinical symptoms of patients with sputum stagnation, shorten the hospitalization time, and improve the patient's self-health management compliance. Improve the satisfaction of Chinese medicine nursing services.

**References:**


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**Research progress on homotherapy for heteropathy of Dangguishaoyao san preventing Alzheimer's disease and polycystic ovarysyndrome based on hypothalamic-pituitary-ovary axis**

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**Abstract**

Danggui-Shaoyao-San (DSS) is a famous herbal formula composed of the following 6 raw herbs: *Angelica sinensis* (Oliv.) Diels (Umbelliferae), *Paeonia lactiflora* Pall. (Paeoniaceae), *Ligusticum chuanxiong* Hort. (Umbelliferae), *Poria cocos* (Schw.) Wolf (Polyporaceae),...
Atractylodes macrocephala Koidz. (Compositae), and Alisma orientalis (Sam.) Juzep. (Alismataceae), which has been widely used in the treatment of various gynecological diseases. DSS also has an effect on free radical-mediated neurological diseases, possesses antioxidant capability, attenuates inflammatory reaction, and reduces cell apoptosis in the hippocampus. Analysis by HPLC-DAD-ESI-MS/MS revealed that DSS contains ferulic acid, Z-ligustilide, monoterpen glycosides, phenolic acids, phthalides, sesquiterpenoids and triterpenes, gallic acid, albiflorin, paoniflorin, benzoic acid, senkyunolide I, coniferyl ferulate, senkyunolide A, 3-butylyphthalide, Z-butylyphthalide, atractylcohollide II, atractylolide I, levistolide A, and etc. The effects of DSS on neurons are multiple and DSS has been used for the treatment of gynecological symptoms in elderly women. Recently, it was found that DSS is a potential therapeutic agent for Alzheimer's disease (AD).

A large number of studies have confirmed that it has a wide range of pharmacological effects such as adjusting the function of the hypothalamic-pituitary ovarian axis, improving blood deficiency, alleviating dysmenorrhea, improving learning and memory, regulating neuroendocrine immunity, protecting cardiovascular, anti-cerebral ischemia, and anti-inflammatory and anti-oxidative. The research group found that Prescription (Liver depression and spleen deficiency) the pathogenesis is closely related to the hypothalamus-pituitary-ovary axis disorder, and the more obvious symptoms are at the central nervous system.

**Keyword:** Danggui Shaoyao San; Alzheimer's disease; polycystic ovary syndrome; homotherapy for heteropathy; hypothalamic-pituitary-ovarian axis

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**Clinical study on the treatment of cold dampness pattern primary sciatica by White Tiger Shaking Head Needling Method**

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**Abstract**

To observe the effect of White Tiger Shaking Head needling technique on primary sciatica with cold and dampness. 120 cases of primary sciatica with cold and dampness were randomly divided into two groups: treatment group and control group. The treatment group were treated by White Tiger Shaking Head needling technique while the control group by traditional needling method, 10 days was a course. In the treatment group 26 cases got excellent effect, accounting for 43.33%, the total efficiency was 93.33%; in the control group 17 cases got excellent effect, accounting for 28.33%, the total efficiency was 68.33% (P<0.05). White Tiger Shaking Head needling technique has a high clinical value on treating sciatica.

**Key words:** Cold and dampness Primary sciatica White Tiger Shaking Head

1. **Data and Method**

1.1 General information

Between January 2017 and April 2019, we selected 120 cases of type spbizu primary sciatica patients, observation object were randomly divided into two groups, control group and observation group, 60 cases in treatment group 32 cases of patients with male patients, female patients with 28 cases, patients aged 20 to 63, the average (32.3 + 5.6) years old, male 35 cases in the control group, 25 cases of female, 23 to 60 years old, average (30.4 + 6.2), two groups there is no statistical difference of general data.

1.2 Diagnostic criteria [3]and TCM syndrome differentiation criteria[4]

(1) there may be tender points along the sciatic nerve, and there is no obvious tenderness on both sides of the waist and spine;
(2) pain along the sciatic nerve pathway and its distribution area starts from the waist, buttocks or hips, and spreads down the back of the thigh, popliteal fossa, lateral leg and dorsal foot. On the basis of persistent pain, there are waves of intensified burning or needling pain. Affected limb flexion and extension movement and cough, sneeze can aggravate the pain;

(3) laek sign positive and chin-chest test negative;
(4) X-ray showed no lumbar push and joint lesions;
(5) pain increased with cold and relieve with heat while pain doesn’t relieve with lying position

1.3 inclusion criteria for cases
(1) have clear clinical symptoms and signs;
(2) between 20 and 65 years old, regardless of gender;
(3) clinical disease diagnosis based on cure and improvement criteria [2] was used as the diagnosis criteria;
(4) it meets the criteria for diagnosis and efficacy of TCM diseases and syndromes issued by the state administration of traditional Chinese medicine

1.4 exclusion criteria for cases
(1) no sciatica diseases caused by lumbar disc herniation, intraspinal tumors, pelvic tumors, uterine compression of pregnancy, diabetes, lumbosacral congenital deformity, etc.;
(2) younger than 20 or older than 65;
(3) patients with coagulation disorder or bleeding disease;
(4) needle sick or not cooperating with treatment;
(5) it does not meet the criteria for diagnosis and efficacy of TCM diseases and syndromes issued by the state administration of traditional Chinese medicine.

1.5 intervention methods
1.5.1 treatment group: the patients were treated with baihu head-shaking acupuncture technique. The main acupoints were zhuyang and shaoyang meridians, and specific acupoints were selected: huanchao, weizhong and yanglingquan as the main points, and qiban, chengfu, zusanli, xuanzhong and kunlun as the auxiliary points. Acupuncture: the patient was placed in the prone position or lateral position, and the skin at the acupoints was routinely disinfected. A millineedle (25×40mm) was selected to Pierce the acupoints, and the white tiger shaking head technique was used for acupuncture at the same time. The needle was inserted into the skin at a depth of 25-35mm, and the needle was kept for 30 minutes at a time. During this period, the needle was inserted twice with the white tiger shaking head acupuncture technique, and the degree of acid, numbness, weight and distension was measured. "White tiger shaking his head, like a hand bell, back into the circle, and the left and right, shaking and vibration of" twist into the needle after inserting the needle to the left, and then lift the needle to the right, at the same time, shaking around like a hand bell, such as repeated operation six times or six multiples. Shaking should rely on the wrist force, with the end of the needle handle as the center to make the tip of the fan-shaped trajectory to move, the purpose is to increase the movement of the tip in the tissue to increase the amount of stimulation.

1.5.2 control group: traditional acupuncture manipulation was used for treatment. The main acupuncture points were foot sun and shaoyangmeridian. Specific point selection: huantiao, weizhong, yanglingquan as the main points, with chichbian, chengfu, zusanli, hanging bell, kunlun as the matching points. Acupuncture: the patient was placed in prone position or lateral position, and the skin at the acupoint was routinely disinfected, and the acupoint was punctures with a filiform needle (25×40mm). Insert the needle into the skin with a depth of 25-35mm. Keep the needle for 30 minutes each time.

1.5.3 course of treatment: two courses in total. Once a day, a course of 10 times, after a course rest for two days, and then the next course.

1.6 observation indexes and methods
1.6.1 observational indicators: visual analogue rating (VAS) was used for pain score.
1.6.2 VAS pain grading method: a piece of paper marked with a straight line of 10cm was used. The left end of the straight line indicated painless and the right end indicated unbearable pain. Told the patient to feel pain intensity to mark "□" tag on the straight line, left end line to mark
the distance between the pain intensity (cm) for the patients. In order to avoid subjective errors in marking before and after treatment, patients were marked on the straight lines of different papers during each measurement. Before and after treatment, scores were made by special personnel.

1.7 efficacy criteria
The therapeutic effect of this treatment was analyzed according to the criteria for diagnosis and efficacy of TCM diseases and syndromes [3]. Clinical cure: the patient's symptoms disappear, no pain, normal life;Effective: patients with pain improvement, symptom relief, life is basically not affected;No effect: no improvement in symptoms.

1.8 statistical methods
After 2 courses of treatment, SPSS12.0 statistical software was used to analyze the two groups of patients. The measurement data were analyzed by t-test and the counting data by x2 test. P<0.05 was considered statistically significant.

2. Result and Discussion
2.1 Pain score VAS pain scores before treatment in the two groups showed no statistically significant difference (P>0.05). The pain scores of the control group before and after treatment were statistically significant (P<0.05). The pain scores of the treatment group before and after treatment were statistically significant (P<0.01). Compared with the control group, the pain scores of the two groups after treatment were significantly lower in the treatment group than in the control group (P=0.05). The results showed that the analgesic effect of baishou head-shaking acupuncture treatment on sciatica with cold and dampness stagnation was better than that of traditional acupuncture treatment, as shown in Table 1.

<table>
<thead>
<tr>
<th>Gender</th>
<th>cases</th>
<th>Before treatment</th>
<th>After treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlgroup</td>
<td>60</td>
<td>6.68±0.95</td>
<td>4.93±0.78*</td>
</tr>
<tr>
<td>Treatinggroup</td>
<td>60</td>
<td>6.52±0.97</td>
<td>3.56±0.63***</td>
</tr>
</tbody>
</table>

Note: Comparison in group● P<0.05, ●●P<0.01; Comparison between groups★ P<0.05, ★★P<0.01

2.2 efficacy evaluation after the intervention of the two groups, 17 cases (28.33%) were clinically cured in the control group. Effective 25 cases (41.67%); 20 cases were invalid, accounting for 33.33%. The total effective rate was 68.333%. 26 cases (48.33%) were cured in the treatment group. 30 cases (50.00%) were effective. 4 cases were invalid, accounting for 6.67%. The total effective rate was 93.333%. The difference of total effective rate between the two groups was statistically significant (P<0.05), see table 2. This indicates that the treatment group has obvious clinical advantages over the control group in the treatment of cold dampness bi type sciatica

<table>
<thead>
<tr>
<th>Group</th>
<th>cases</th>
<th>curative</th>
<th>effect</th>
<th>Non-effect</th>
<th>Total effective rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlgroup</td>
<td>60</td>
<td>17 (28.33)</td>
<td>25 (41.67)</td>
<td>20 (33.33)</td>
<td>41 (68.33)</td>
</tr>
<tr>
<td>Treatinggroup</td>
<td>60</td>
<td>26 (48.33)</td>
<td>30 (50.00)</td>
<td>4 (6.67)</td>
<td>56 (93.33)</td>
</tr>
</tbody>
</table>

2.3 Sciatica belongs to the category of "bi syndrome" disease, which is caused by wind, cold and dampness infection, which leads to the damage of meridians and collaterals, and the dysfunction of qi and blood, causing pain.

White tiger shake his head as "fly through the gas" one of the four methods, with dredging channels and collaterals, qi, blood circulation, clearing damp role. White tiger shakes his head to "shake" channel qi, and controls the direction of channel qi conduction, so as to enrich the channel, activate blood circulation, and induce evil spirits to go out and disperse wind and cold
The primary sciatica disease is in the meridians, the etiology of this disease is that the meridians suffer from cold and dampness, and the movement is not smooth. In this study, the total effective rate was 93.22% in the treatment group and 68.97% in the control group. It indicates that this manipulation has a strong sense of needle, easy to control the conduction direction, and can significantly relieve pain, reduce swelling and improve motor function. Because the white tiger shaking head needle method produces a large amount of stimulation in the implementation process, and has a wider range of action, it can promote blood circulation, more effectively remove the adhesion or contracture of the diseased soft tissue, so as to relieve pain and eliminate edema. At the same time, with the reduction of pain and swelling, the functional activities of the limbs are further improved, which has better clinical efficacy, therefore, we recommend its wide use in clinical practice.

Reference

Clinical observation of acupoint embedding on constipation after stroke

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Abstract: Objective: To observe the therapeutic effect of acupoint embedding on patients with constipation after stroke. Methods: 82 patients were randomly divided into two groups: observation group and control group, 41 cases each. There was no difference in clinical general data between the two groups. The observation group used Zhongwan, Tianshu, Guanyuan, and Dachangshu as the main points, with the following sputum, Shangjuxu point, Zusanli point, and then add and subtract with the disease. Embed the line once every 15 days, 2 months for a course of treatment. The control group was treated with traditional Chinese medicine. According to the difference between the secret and the secret, the Maziren pill and Jichuan fried were used respectively. The dosage depends on the actual condition of the patient and is treated for 2 months. Results: The total
Electro-acupuncture Preconditioning Exerts Anti-apoptosis Effect through Down-regulation of Bax-to-Bcl-2 ratio and Blockade of Cyt c–dependent Caspases Activations in Rats with Cerebral Ischemia and Reperfusion Injury

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Abstract:
Background Electro-acupuncture preconditioning (EP) can play a significant brain-protective effect through the anti-apoptosis effect in rats with cerebral ischemia and reperfusion (CIR) injury, but the specific mechanism remains to be further elucidated.

Objective: To investigate the effects of EP on apoptosis and apoptosis-related proteins Bax, Bcl-2, Cyt c, cleaved caspase-9 and -3 in rats with CIR injury.

Methods: CIR injury was induced using middle cerebral artery occlusion (MCAO) ischemia-reperfusion by modified Longa's suture-occluded method. Fifty-four male SPF Sprague-Dawley rats were randomly and equally divided into three groups: Sham group, MCAO group, and EP+MCAO group. The EP+MCAO group rats received continuous electro-acupuncture intervention for 2 consecutive weeks before MCAO model preparation. After 24 h of reperfusion, neurological deficits were evaluated using Modified Neurological Severity Score and the volumes of cerebral infarction were measured using TTC staining. The expressions of Bax, Bcl-2, Cyt c, cleaved caspase-9 and -3 proteins in the ischemic penumbra were detected by Western blotting. Apoptosis in the ischemic penumbra was evaluated using TUNEL assay.

Results: After perfusion for 24 h, the neurological deficit scores of the EP+MCAO group significantly decreased (P<0.05), the volume of cerebral infarction decreased (P<0.05), the level of Bax protein decreased (P<0.05), the level of Bcl-2 protein increased (P<0.05), the Bax/Bcl-2 ratio decreased (P <0.05), the Cyt c, cleaved caspase-9 and -3 proteins decreased (P<0.05), and TUNEL-positive cells decreased significantly (P<0.05) compared with those of the MCAO group.

Conclusion EP exerts anti-apoptosis effect through down-regulation of Bax-to-Bcl-2 ratio and blockade of mitochondrial Cyt c release to cytosol and caspase-9 and -3 activations in rats with CIR injury.

Keywords: Electroacupuncture preconditioning; cerebral ischemia-reperfusion injury; apoptosis; Bax; Bcl-2; Cyt C; caspase-9; caspase-3

20 cases on moxibustion treatment for cervical pain

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Abstract:
Objective: To observe the clinical efficacy of treatment on osteoarthritis of the knee with moxibustion.
Methods: To treat 30 cases of knee osteoarthritis with moxibustion of local selection points.
Results: The total effective rate was 86%.
Conclusion: Moxibustion for osteoarthritis of the knee has significant effects without obvious untoward effect.

Keywords: Moxibustion; Knee osteoarthritis; Clinical cases.

Osteoarthritis of the knee, a common clinical disease, is a chronic degenerative osteoarthritis usually featured by the articular cartilage degeneration, hyperosteogeny, inflammation and hyperemia in articular cavity. This paper reported the treatment results of 30 cases of out-patients with knee osteoarthritis in 2015-2017.

1 Materials and Methods
1.1 General Information
30 patients were enrolled in this research project, including 11 female and 19 male, aged between 30 and 73, with course of disease between 1 month to 2 years.
1.2 Exclusion criteria
☐ Knee tuberculosis or septic arthritis; ☐ Female patients who are pregnant or in lactation;
☐ Patients with medical history over 10 years and obvious joints deformity; ☐ Knee meniscus;
☐ Patients combined serious diseases related with heart, brain, liver, kidney and mental disorders; ☐ Patients who did not follow the treatment procedure.
1.3 Diagnostic criteria
Western medicine, according to diagnostic criteria of the American institute of rheumatism in 1986:
☐ Knee pain most of the time for 1 month; ☐ Joint motion with sounds; ☐ Joint stiffness in the morning ≤30 min; ☐ Aged ≥35 years; ☐ Knee swelling with snapping; ☐ Knee swelling without snapping.

Appeared in ☐-☐ or ☐-☐, ☐ or ☐-☐, patients can be diagnosed with osteoarthritis of the knee.

TCM diagnostic criterion: Referenced to the "guiding principle of clinical research in new Chinese traditional medicine" of Health department of China:
☐ Mild pain of joints in the early stage, inconvenient flexion and extension. Condition can be improved after slight activity, and exacerbated by climate change. The symptom come and go and lingering. ☐ Slowly onset and commonly seen in the elderly; ☐ Slightly swelling of the knee can be seen with a clicking and grinding sound by knee motion; ☐ X-ray examination shows osteoporosis, joint space narrowing, subchondral bone sclerosis, lip-like changes on the joint margins, and osteophyte formation.

1.4 Treatment
1.4.1 Acupoints: Four points around the patella—depressions on both sides of patellar ligament and quadriceps. This method of operation we call hanging-pecking moxibustion. The moxibustion points around, the heat was applied with output current strength in tolerance of patients[1]. Patients received treatment for 30 minutes once a day for six days in a week. Two weeks were a treatment session. The statistics was collected after two sessions.

2 Clinical observation
2.1 Therapeutic effect criterion
Recovery: No pain, no joint swelling, no stiffness, normal joints movement; Markedly: Little pain, joint swelling and stiffness has significantly reduced. The symptoms relapse by overexertion. Effective: Pain relief, mitigation of swelling and stiffness. The symptoms relapse by overexertion. Invalid: The symptom and physical sign have no improvement.
2.2 Treatment Results: In 30 cases there were 11 recovery, 9 markedly, 6 effective, and 4 invalid. The total effective rate was 86%.

3 Discussion
In Chinese medicine, moxibustion has the effects of activating collaterals to promote the circulation and removing the stasis to relieve the pain. Meanwhile, it can reduce muscle spasms around the knee, improve the range of motion of the knee and decrease the stiffness[2]. Experiments have showed that moxibustion can significantly reduce the content of NO and MDA in the blood of knee osteoarthritis rabbits, increase the content of SOD, improve the metabolism of...
The development of acupuncture in Russia under the "one belt and one way" strategy

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Abstract: as an important country along the "one belt and one road", the history of Chinese medicine in Russia can be traced back to the eighteenth Century. After three centuries of development, Chinese medicine has been widely recognized in Russia, attracting a large number of experts and scholars to continue to study and publish many works. Acupuncture and moxibustion have developed into acupuncture reflex therapy with Russian characteristics. Acupuncture and moxibustion is popular among the Russian people because of its unique curative effect, simple and inexpensive, and small side effects, especially in the treatment of some chronic diseases and difficult and complicated diseases.

Key words: Acupuncture; Russia; Development

Historically, Russians have accumulated rich scientific research, education and practical experience in traditional medicine. With the increasing demand for natural drugs and non-drug therapies in disease prevention and treatment, acupuncture and moxibustion have attracted more and more attention in Russia. Most professionals also acknowledge that the integration of acupuncture and moxibustion with modern natural science is the right choice. Nowadays, the value and advantages of acupuncture and moxibustion are constantly re-evaluated and explored in the predominant Western medical system. At the same time, with the advance of the "one belt and one way" initiative and the continuous strengthening of cooperation between China and Russia in various fields, we can say that the development of traditional Chinese medicine in Russia has ushered in new opportunities. At present, the quality of the people engaged in acupuncture and moxibustion in Russia is very high. Generally, after several years' work in Hua ye Medical University, they will be trained in acupuncture for more than half a year. Only when they reach the level of specialists in acupuncture, they can engage in acupuncture work. Those who have not been trained by formal means shall not engage. Among those engaged in research work, some people regard acupuncture as their lifelong research goal, while others regard acupuncture as a specialized medical means. These studies are helpful to the scientific principles of acupuncture therapy, as well as to formulate new principles for the application of acupuncture therapy. Russian scholars also use acupuncture to treat a wide range of diseases, such as pain syndrome of liver cancer, obstetric clinical pain, bronchial asthma, angina pectoris, myocardial infarction, gastric and duodenal ulcers, intestinal dysfunction, kidney stones, prostatitis, tinnitus, rhinitis, arthritis, rheumatism, toothache and other internal and external diseases, gynecology, bone injury, skin and neurology. Disease.
Clinical Observation on the Treatment of Grasping Dysfunction after Stroke with Alternation of Flexion and Extensor Muscle at Low-Frequency Acupoint Electric Stimulation

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Abstract:Objective:To observe the effect of low-frequency acupoint electrical stimulation and electroacupuncture therapy on improving the grasping function of the hand after stroke, and to evaluate the motor function of the affected wrist before and after treatment and the patients' daily living ability, to explore the influence of alternating flexor and extensor on the grasping function and activities of hand and wrist, and to optimize the rehabilitation treatment plan of hand function.Methods: The 60 patients who met the standard criteria were randomly divided into the treatment group and the control group, with 30 patients in each group. Both the two groups were given acupuncture department conventional therapy. The control group was treated with electroacupuncture. And the waveform was continuous wave with the frequency of 2Hz. The treatment group was treated with low-frequency acupoint electrical stimulation. And the waveform was intermittent wave with the frequency of 50Hz. The treatment time was 30 minutes each time, 1 time per day, 6 times a week, one day off, and 4 weeks of the total treatment. Choose Lindmark movement function of hand and wrist score, Barthel index (upper limbs) score, clinical neural
function defect scale (China Stroke Scale, CSS) to assess curative effect. Statistical analysis was performed by using SPSS23.0 software. Results: 1. After treatment, the Lindmark total wrist function scores and wrist activity, finger activity, grasping action all parts of the scores in the treatment group and the control group were significantly improved, before and after treatment the difference in the group was statistically significant (P<0.01), and the differences between two groups of patients with the Lindmark scores in activities of hand and wrist and grasping function after treatment were statistically significant (P<0.05), the treatment group was better than the control group. 2. After treatment, the Barthel index scores of the treatment group and the control group were significantly improved, before and after treatment the difference in the group was statistically significant (P<0.01), the difference between the two groups after treatment was statistically significant (P<0.05), the treatment group was superior than the control group. 3. After treatment compared with before treatment, the CSS score of the treatment group and the control group were significantly lower, before and after treatment the difference in the group was statistically significant (P<0.01), the difference between the two groups after treatment was statistically significant (P<0.05), the treatment group was superior than the control group. Conclusions: 1. Low-frequency acupoint electrical stimulation therapy and electroacupuncture therapy can improve wrist movement and grasp function of different forms, promote the recovery of fine hand movement, and improve patients' daily living ability. 2. Both low-frequency acupoint electrical stimulation therapy and electroacupuncture therapy are effective. Low-frequency acupoint electrical stimulation therapy is better than electroacupuncture therapy.

Key words: Stroke; Low-frequency acupoint electrical stimulation; Alternation of Flexion and Extensor; Electroacupuncture therapy; Grasping function

Observation on Curative Effect of Traditional Chinese Medicine Enema Combined with Microwave Therapy and Acupuncture on Benign Prostatic Hyperplasia

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Abstract
Prostatic hyperplasia is a common disease in elderly men. It is clinically characterized by frequent urination, urgency, nocturia, and difficulty urinating. It is associated with urinary tract infections, bladder stones and hematuria. The disease has a serious impact on the quality of life of older men, and some patients need surgery. We took 30 cases of patients with benign prostatic hyperplasia treated with traditional Chinese medicine enema combined with microwave therapy and acupuncture, and compared with 30 cases of drug treatment. The treatment group was treated with traditional Chinese medicine enema combined with microwave therapy and acupuncture treatment, and the control group was treated with conventional drugs. The clinical efficacy of the two groups was compared after 8 weeks of treatment. Results The total effective rate was 93.3% in the treatment group and 83.3% in the control group. The difference between the two groups was statistically significant (P<0.05). So traditional Chinese medicine enema combined with microwave therapy and acupuncture is an effective method for the treatment of benign prostatic hyperplasia.

Key words: Acupuncture medication Microwave combined; Enema; Protatic hyperplasia; Acupuncture therapy; Microwave Therapy.

Objective
To observe the clinical efficacy of traditional Chinese medicine enema combined with microwave therapy and acupuncture in the treatment of benign prostatic hyperplasia.

Materials and methods
1. Treatment group

The drug composition is Daqingye 25g purple flower dip 20g peach kernel 15g safflower 15g angelica 20g king does not stay 25g triangle 15g sputum 15g mountain sage mushroom 20g white flower Hedyotis diffusa 15g. The Chinese medicine decoction 150 ml retention enema requires the patient to perform the bowel movement before the enema. 1 time a day, 2 weeks for a course of treatment, a total of 8 weeks of treatment.

The microwave treatment machine is produced by Tianjin Zhongya Medical Instrument Technology Development Co., Ltd. (National Food and Drug Administration (quasi) word 2013 No. 3250450), microwave frequency: 2450MHz, microwave treatment power: 35W, patient's Chinese medicine enema after supine position, The treatment plate was placed in the middle of the lower abdomen, and the pubic symphysis was combined with 2 cm each time for 20 minutes, once a day for 2 weeks for a total of 8 weeks.

Take Taixi, Sanyinjiao, Ququan, Zhongji, Taichong, Waterway, Return, Hegu and other points. First stab Taixi, Sanyinjiao; then acupuncture Ququan, Zhongji, waterway, return, Taichong. Among them, Taixi, Sanyinjiao and Yanglingquan used the method of supplementing, Ququan, Zhongji, Shuido, Guilai, and Taichong use the diarrhea method, leaving the needle for 30 minutes, once a day, 2 weeks for a course of treatment, for a total of 8 weeks.

2. Control group

Treated with conventional western medicine. Oral finasteride tablets (Chinese medicine Zhunzi J200210120), each 5mg, once a day, even for 8 weeks; oral tamsulosin hydrochloride (Halle) 0.2mg, once a day, and even served for 8 weeks.

Results and discussion

The total effective rate was 93.3% in the treatment group and 83.3% in the control group. The difference between the two groups was statistically significant (P<0.05).

Prostatic hyperplasia belongs to the category of "closed" of traditional Chinese medicine. The pathological factors of the disease are mainly dampness, heat, qi stagnation and blood stasis. Therefore, self-made blood circulation, clearing heat and detoxification, softening and dispersing therapy, Daqingye, Zihua Diding, Shanci Mushroom, Hedyotis diffusa have the functions of clearing away heat and detoxifying, diuretic Tonglin, detoxification and swelling; peach kernel, safflower, three Rib, sputum, to activating blood circulation, softening and loosening the function of swelling; sputum rice water soaked, clearing heat and drainage. All kinds of medicines are used together to play the role of promoting blood circulation, clearing away heat and detoxifying, softening and dissipating swelling. Therefore, it directly destroys the hyperplastic tissue, eliminates prostate edema, congestion, and clears away heat and detoxification, thereby achieving the purpose of reducing the volume of the prostate. Since the prostate belongs to the lower focus, the drug is difficult to reach the disease, even if the disease is reached, the absorption into the body is very small. Therefore, the traditional Chinese medicine enema treatment, absorbed by the large intestine, through the venous return, directly to the disease, received twice the result with half the effort.

Microwave is an ultra-high frequency electromagnetic wave. When heated to 38-43 °C, the oxygen molecules in the normal tissues of the prostate are increased, the blood flow is increased, the white blood cells and lymphocytes are infiltrated, and the tissue immunity is improved, which helps the rectal Chinese medicine to pass through the prostate capsule. The permeability promotes blood circulation to improve the therapeutic effect.

Acupuncture therapy has the functions of dredging meridians, Lishitonglin, promoting blood circulation and removing blood stasis. The liver passes through the yin, the kidney is water, the kidney is open to the yin, the spleen is transported to the water, and the veins are in the middle of the abdomen. In the sea of Yinnai, the foot Sanyin is intersected with the Renmai in the lower abdomen, so it is necessary to acupuncture at several key points of Renmai, Foot-Yin-Yin-Yi-Jing, Foot-Taiyin Spleen and Foot Shaoyn Kidney to achieve heat-clearing and detoxification. Lishui Tonglin, the effect of promoting blood circulation and removing blood stasis. Taixi is the original point of the kidney meridian, which has the function of nourishing yin and tonifying the kidney, and

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dampness and drenching. Sanyinjiao has the functions of strengthening the spleen and strengthening the kidney, nourishing the liver and kidney, and diluting the water. Ququan is a point of liver meridian, which has the effects of clearing away heat and detoxifying, promoting dampness and drenching, promoting blood circulation and removing blood stasis. Zhongji Point is the main point for diuretic Tonglin. Tai Chong is the origin of the liver meridian, there is the effect of Pinggan diarrhea, Shugan nourishing, clearing the lower focus. The acupoints are used together to play the role of clearing away heat and detoxifying, dampness and drenching, promoting blood circulation and removing blood stasis. The waterway and the returning genus are all beneficial to the function of water seepage, thus enhancing the effect of Lishui Tonglin.

References

Influence of Electroacupuncture at Baihui and Fengfu Acupoints on Learning and Memory Ability of AD patients

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Abstract
Alzheimer's disease (AD) is a frequent pathology, with a poor prognosis, for which no curative treatment is available now. AD prevention is an important issue, and is an important research topic. Smoking, diabetes, high blood pressure, obesity, hypercholesterolemia, physical inactivity, depression, head trauma, heart failure, bleeding and ischemic strokes, sleep apnea syndrome appeared to be associated with an increased risk of AD. In addition to these well-known associations, we highlight here the existence of associated factors less described: hyperhomocysteinemia, hearing loss, essential tremor, occupational exposure to magnetic fields. On the contrary, some oral antidiabetic drugs, education and intellectual activity, a Mediterranean-type diet or using Healthy Diet Indicator, consumption of unsaturated fatty acids seemed to have a protective effect. Previous studies indicate that abnormally high levels of inflammatory cytokines and their receptor, suggesting a potential correlation between inflammatory cytokines and AD. In this manuscript, to explore the Influence of Electroacupuncture at Baihui and Fengfu Acupoints on Learning and Memory Ability of AD patients. This may contribute to the emergence of prevention policies to delay or prevent the onset of AD.
Keywords: electroacupuncture; Alzheimer’s disease (AD); learning and Memory;

We carried out systematic analysis to evaluate whether peripheral levels of pro-inflammatory markers including Interleukin-1 beta (IL-1β), Interleukin-6 (IL-6), Tumor Necrosis Factor-α (TNF-α) are significantly higher in elderly with depression and Alzheimer’s disease. We explore the Influence of Electroacupuncture at Baihui and Fengfu Acupoints on Learning and Memory Ability of AD patients.

Objective: to explore the Influence of Electroacupuncture at Baihui and Fengfu Acupoints on Learning and Memory Ability of AD patients.

Materials and methods

Selected meet the inclusion criteria 60 AD patients, according to randomly divided them two groups: the treatment group treated by electroacupuncture at Baihui and Fengfu Acupoints and donepezil therapy, the control group only treated by donepezil. Before and after 8 weeks intervention. The MMSE and ADL was adopted in evaluating the patients’ cognitive and activities of daily scale before and after treatment. Detect the level of TNF-α, IL-6, IL-1β, SOD, GSH-Px, MDA in fast venous blood in the morning.

Results and discussion

Before treatment the level of MMSE and ADL have no significant differences (P>0.05), after treatment scores of MMSE and ADL was improved as compared with those before treatment, the score differences in MMSE and ADL before and after treatment were significant in the two groups (P<0.05). The level of serum cytokines result show that after treatment the level of SOD, GSH-Px of the treatment group and control group improve significantly (P<0.05), the level of TNF-α, IL-6, IL-1β, MDA of the treatment group and control group after treatment decreased significantly (P<0.05). The differences in TNF-α, IL-6, IL-1β, MDA, SOD, GSH-Px before and after treatment were significant in the two groups (P<0.05).

The influence of electroacupuncture at Baihui and Fengfu acupoints and donepezil therapy can adjust the generation of inflammatory factors and anti-oxidative stress, it effectively improve the cognitive ability and activities of daily scale of AD patients.

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Clinical observation on pressure ulcer treated by bangci electro-acupuncture with quanxieruangao

Pangling

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Abstract

Pressure ulcer is a common serious complication after spine surgery that increases patient morbidity, prolongs hospital stay, requires a long period of antibiotic therapy, may require multiple surgeries, and may require implant removal in some cases. Owing to the many factors involved in its pathophysiology, the reported incidence varies from 0% to 16%. The infection rate of pressure ulcer is higher. It is also observed that patients undergoing pressure ulcer may remain in bed for prolonged periods, especially patients with motor deficits, decreased level of consciousness, or disabling pain. Potential explanations for the higher infection rate after posterior spine surgery include: the poor hygienic condition of bed sheets, especially when the patient is incontinent, and circulatory impairment of the traumatized muscle, which remains squeezed between the bed and the spinal implants while the patient is in the supine position. We hypothesized that the supine position may cause increased pressure on the back tissues contributing to some degree of ischemia, hypoxia, and additional muscle necrosis and that these factors could contribute to infection. We conducted a randomized clinical trial to compare the clinical therapeutic effects on pressure ulcer between bangci electro-acupuncture with quanxieruangao and only quanxieruangao method, it aims to provide a theory basis for clinical practice.

Keywords: pressure ulcer; bangci; electro-acupuncture; quanxieruangao; Clinical observation

We carried out systematic analysis to evaluate results before and after treatment was evaluated with push score. The clinical efficacy was compared between the groups.

Objective

To compare the clinical therapeutic effects on pressure ulcer between bangci electro-acupuncture with quanxieruangao and only quanxieruangao method, it aims to provide a theory basis for clinical practice.

Materials and methods

Forty cases of pressure ulcer from the acupuncture clinic of the second affiliated hospital of Heilongjiang University of Chinese Medicine were randomly divided into an treatment group and a control group, 20 cases for each. The cases in treatment group were treated with bangci electro-acupuncture with quanxieruangao therapy. The cases in control group were treated with routine quanxieruangao. Results before and after treatment was evaluated with push score. The clinical efficacy was compared between the groups.

Results and discussion

Comparison the two groups on Clinical Effects. In treatment group, total effective rate was 90.00%, which was superior to that of 80.00% in control group. The treatment group showed tendency to be more effective than the control group. Comparing the push score of the two groups showed statistical difference (p<0.05) between two groups, the treatment group improve more than the control group.

From the results of the clinical research, we consider that by bangci electro-acupuncture with quanxieruangao improve the symptom of pressure ulcer. It has the advantage of economic and convenience, so the treatment is easily accepted by the patients.
References:

Healing Effect of Encircling Electroacupuncture for Pressure Injury Induced by Ischemia-Reperfusion

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Abstract
BACKGROUND: Medical device related pressure injury (MDRPI) has a significant impact on the life quality of patients and increase the cost of care for patients and providers. Ischemia-reperfusion (IR) is one of the important mechanisms leading to pressure injury (PI). Studies have shown that PI can be effectively prevented by improving local blood flow. Electroacupuncture has the effect of improving local blood circulation. In a previous randomized controlled trial, we found that electroacupuncture could significantly promote wound contraction after pressure injury.

OBJECTIVE: To investigate whether electroacupuncture can promote the sore surface contraction by improving local blood perfusion after ischemia-reperfusion induced pressure injury (IRIPI).

METHODS: Twenty-four female C57BL/6 mice were randomized divided into encircling electroacupuncture (EEA), acupuncture, model and control group. The IRIPI model was prepared on the dorsal skin of mice. The injury characteristics, area, local blood perfusion volume of each group of IRIPI mice after 1 to 12 days of intervention, and the local blood perfusion volume before and after the intervention of EEA or acupuncture were observed.
RESULTS: After 10-12 days of intervention, the area of sore surface of acupuncture group was significantly smaller than the model group ($p<.05$). After 5 days of intervention, the area of PI of EEA group was significantly smaller than the acupuncture group ($p<.05$) and the model group ($p<.05$). After 4 days of intervention, the local blood flow reperfusion of PI was significantly lower than the model group ($p<.05$). After 8 days of intervention, the level of the control group was reached ($p>.05$). The local blood flow of the EEA after 2 days of the intervention was significantly lower than the acupuncture group ($p<.05$) and the model group ($p<.05$), the control group level was reached after 5 days of intervention ($p>.05$). In addition, the local blood perfusion of pressure injury after EEA was slightly higher than that before intervention, and there was a significant difference after 11 days of intervention ($p<.05$).

CONCLUSION: EEA can improve the local blood perfusion of IRIPI and promote the sore surface contraction. EEA has a slight immediate effect on local blood perfusion.

**Effect of penetrating acupuncture on idiopathic facial palsy:**
**a clinical observation of 60 cases**

Li Xiaoning , Huang Ling , Jiao Yang

Abstract
This paper introduces Professor Li Xiaoning's special needling method: penetrating puncture for idiopathic facial paralysis. Based on the theory of meridians and collaterals of traditional Chinese medicine and combined with the distribution characteristics of facial nerve and muscle anatomy, Professor Li innovatively put forward the idea of holistic treatment, meanwhile, highlight on the local. The method of penetrating the meridian by acupuncture provides a new idea and method for the treatment of idiopathic facial paralysis in clinic. In this trial, the amplitude of motor nerve conduction velocity was taken as the observed index, and the change of amplitude was related to the axonal damage of facial nerve. The percentage of amplitude loss represented the axonal involvement, and the smaller the ratio, the faster the recovery. The degree of nerve injury before and after treatment were evaluated by nerve electrophysiological test (electromyography/evoked potentiometer (Keypoint,9031A 070), Bell's palsy 10-item scoring method and House-Brackmann facial nerve function grading (H-B grading).

**Key words:** electroacupuncture; Penetrating puncture; idiopathic facial paralysis; Clinical observation.

Idiopathic facial palsy, also known as facial neuritis or Bell palsy, refers to the peripheral facial paralysis caused by acute nonspecific inflammation of the facial nerve within the stylomastoid foramen. The specific pathogenesis of it is not yet clear. It is mainly characterized by sudden motor dysfunction of facial expression muscle groups on one side, with the disappearance of frontal lines, incomplete eyelid closure, shallow nasolabial groove, and slanted mouth angle to the healthy side, and some patients can also be accompanied by symptoms such as reduced taste and hearing hypersensitivity. According to some statistics, the prevalence rate in China is about 425/100,000, and the annual incidence is 26-34/100,000. In recent years, the patients are getting younger. Most patients have self-healing tendency and have a good prognosis, but a small number of patients will leave sequelae, which seriously affects the life feed of patients, and their physical and mental health can also be damaged at the same time.

**Objective**
To observe the effect of penetrating acupuncture for idiopathic facial palsy.

**Materials and methods**
60 cases of patients in line with this study were collected and assigned to the treatment group and control group by random number table method, with 30 cases in each group. Patients in both groups received basic treatment as follows: prednisolone tablet, 15mg each time, twice a day, and
decreased after 5 days; medrine tablet was taken 0.5 mg each time, three times daily; aciclovir tablet was taken 20mg each time, four times daily according to the actual situation.

Facial penetration was used in the treatment group: "Ti'e point" penetrate toward "yangbai"(GB14); "yangbai"(GB14) penetrate toward "yuyao"(EX-HN4); "tongziliao"(GB1) penetrate toward "taiyang"(EX-HN5); "taiyang"(EX-HN5) penetrate backwards; "juliao"(ST3) and "quanxiao point" mutual penetration;"quanliao"(SI18) and"quanda point" mutual penetration; "dicang"(ST4) and "jiache"(ST6) mutual penetration.

The control group was treated with routine acupuncture :"yangbai"(GB14), "sibai"(ST2),"quanliao" (SI18), "jiache"(ST6), "dicang"" (ST4), "yifeng"(SJ17), "hegu"(LI4).

Patients in both groups were treated with electroacupuncture after acupuncture, and acupuncture treatment was performed twice a day for 30min each time in the two groups. The intensity is measured by the slight pulsating and endurance of the patient's facial muscles. After 6 days of treatment, there was 1 day of rest and 1 course of treatment on 7 days, for a total of 3 courses of treatment. The degree of nerve injury before and after treatment were evaluated by nerve electrophysiological test, Bell's palsy 10-item scoring method and House-Brackmann facial nerve function grading (I-H B grading). Motor nerve conduction velocity examination was conducted on the 7th day of onset and after treatment for the two groups of patients, the amplitude of action potential was recorded, and the percentage of amplitude loss was calculated. All statistical data were statistically analyzed by using spss19.0 software.

Results and discussion

4. Before treatment, the baseline data of all patients were statistically analyzed, and there was no significant difference between the two groups (P>0.05).

5. After three courses of treatment, the scores of each scale and motor nerve conduction velocity were significantly improved compared with those before treatment (P < 0. 01), indicating that both different treatments are effective.

6. After treatment, there was significant difference in the total effective rate between the two methods (P < 0.01). The total effective rate of the treatment group was 93. 5%. The total effective rate of the control group was 86. 5%. Compared with the conventional acupuncture group, the total effective rate of the penetrating acupuncture group was higher than that of the conventional acupuncture group.

The acupoint of the treatment group (penetration acupuncture method) was put forward by Professor Li: (1)"Ti'e point": 1 cun above "yangbai"(GB14). It is located in the frontal muscle, distributed with the lateral branch of the frontal nerve, which controls the eyebrows to rise, forming the forehead line. (2)"quanxiao point": The intersection of the extension line between "ermen"(SI21) and "quanliao"( SI18)and the perpendicular line of "qiuhou"(EX-HN7). It is in the zygomatic minor muscle, and has a facial nerve branch below it, which is mainly pulling up at the angulusorius. (3) "quanda point": It is located at the intersection of the line "tinggong"(SI19) and "chengjiang"(RN24) and the nasolabial sulcus. In the zygomatic major, there is a branch of the facial nerve, which controls the upward and outward pull of the angulusorius.

By simplifying acupoint selection, acupuncture at one point is equivalent to acupuncture at several points, and the pain and fear of acupuncture are reduced. Penetrating puncture has the characteristics of strong stimulation intensity and needle sensation on the affected side, which is beneficial to restore facial nerve function. In the process of penetrating acupuncture, the needle sense is easy to diffuse, which can strengthen the stimulation and conduction of meridians, thus promoting the circulation of qi and blood, improving the curative effect, expanding the scope of acupuncture, and communicating the echo of meridians and qi. For the clinical treatment of idiopathic facial nerve palsy patients, the use of penetrating acupuncture combined with electroacupuncture treatment and conventional acupuncture combined with electroacupuncture treatment have a clear effect. The clinical effect of penetrating acupuncture on idiopathic facial nerve palsy is more definite than that of conventional acupuncture group.

References:
With the winding hole treatment of vascular dementia clinical curative effect and the influence of homocysteine

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Abstract
Objective: to observe the effect of the original network with points combined with Duxil (Almitrine 30mg, Raubasine 10mg) in the treatment of vascular dementia. Methods: 90 Patients involved in this trial, and divided into 3 groups, each group has 30 Patients. Acupuncture group use DU 20, DU 24, EX-HN 1, GB 20, the original network with points are selected as the main points. The group of acupuncture combined with Duxil use Duxil Basis in the acupuncture group. Medicine group adapt Duxil. Each group needs 6 weeks for treating. Each group measured MMSE measuring scale, HDS measuring scale and ADL before treatment, and then rechecked 6 weeks later when treatment course were completed. While determination of homocysteine before and after treatment (Hcy). Result: The efficacy of the acupuncture group was 73.33%, the efficacy of the group of acupuncture combined with Duxil was 90% and that of the medicine group was 63.33%. Conclusion: The original network with the main point acupuncture treatment of vascular dementia have the exact effect, the situation can improve the intelligence of patients with social, daily living, personality (emotional personality) to change, and can reduce blood of the same type cysteine acid content, increase the excitability of the cerebral cortex, for patients with learning, memory and other capabilities of the recovery.

Key words: The original network with points, vascular dementia, Duxil, dementia scale, homocysteine

Advances in Research on the Mechanism of Synovial Mesenchymal Stem Cells in the Repair of Necrotic Cartilage Injury of Femoral Head

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Abstract: The femoral head necrosis is accompanied by articular cartilage injury. Due to the easy acquisition and multi-directional differentiation potential of SMSCs, it has strong proliferation, cartilage differentiation and colony forming ability, and is adjacent to injured cartilage. Into
cartilage is better than mesenchymal stem cells derived from bone marrow, periosteum, fat, tendon, etc., having become an important seed cells for cartilage repair. To explore the role of synovial mesenchymal stem cells in the treatment of femoral head necrosis and articular cartilage injury is of great significance.

**Key words:** Synovial mesenchymal stem cells; Femoral head necrosis; Chondrogenic differentiation; Cartilage injury

Femoral head necrosis involves aseptic necrosis of the joint. The necrotic area involves bone, cartilage, blood vessels, bone marrow, etc., joint fluid and synovial membrane are also affected, pathological changes involved in cell necrosis, apoptosis, coke death, synovial inflammation, fibrous tissue hyperplasia, adipogenic differentiation, bone collapse, osteoarthritis, etc., the study of femoral head necrosis should not be limited to the femoral head itself\(^1\). The hip joint was studied as a whole. The femoral head necrosis specimens were divided into articular cartilage area, subchondral necrosis area, granulation tissue band, reactive hardening zone and normal area. Cartilage injury secondary to increased risk of osteoarthritis, due to articular cartilage degeneration and mechanical structural abnormalities caused by articular cartilage mushroom-like changes, surface is not smooth\(^2\), even cartilage shedding, subchondral capsule, lipid Accumulation, associated with femoral head necrosis leading to cartilage metabolism disorders. Synovial mesenchymal stem cells (SMSCs) can differentiate into chondrocytes, osteoblasts, adipocytes, muscle cells, and have multi-directional differentiation potential, especially showing strong Proliferation, cartilage differentiation and colony forming ability are superior to mesenchymal stem cells from bone marrow, periosteum, fat, tendon and other sources. SMSCs have become important seed cells for cartilage repair. They are closely related to chondrocyte gene expression profiles, derived from the same precursor cells, both of which aggregate type II collagen and express proteoglycan genes\(^3\). The cytokines secreted by chondrocytes can Inducing differentiation of SMSCs into cartilage direction, regulating the differentiation of SHMCs into cartilage differentiation plays an active role in the repair of cartilage injury secondary to femoral head necrosis.


**Clinical Curative Effect Observation of the Treatment of Parkinson's Disease with Electroacupuncture of Head Acupoint Combined with Levodopa and Benserazide Hydrochloride Tablets**

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**Abstract**

**Objective:** Observe the clinical curative effect of electroacupuncture of head acupoint combined with levodopa and benserazide hydrochloride tablets in the treatment of Parkinson's disease.
Methods: Ninety PD patients in the outpatient and inpatient department of acupuncture and rehabilitation of the Second Affiliated Hospital of Heilongjiang University of Chinese Medicine from March 2016 to October 2017 were selected as the subjects of study, according to the random number method, they were divided into A group, B group and C group, 30 cases in each group. Among them, the group A were treated by electroacupuncture of head acupoint combined with levodopa and benzerazide hydrochloride tablets combined with ordinary acupuncture, group B with electroacupuncture of head acupoint combined with ordinary acupuncture, group C with levodopa and benzerazide hydrochloride tablets combined with ordinary acupuncture, acupuncture treatment is carried out at 9~11 a.m. every day for 6 days, rest for 1 day, a total of 4 weeks of treatment. The clinical efficacy of the three groups, Hoehn-Yahr(H-Y) staging scale, unified Parkinson's disease rating scale (UPDRS), Parkinson's disease sleep scale (PDSS) score, and the levels of acetylcholine (Ach) and dopamine (DA) in the brain were observed.

Results: After treatment, compared with group B and group C, the treatment effect of group A was significantly different (P<0.05). After treatment, there was significant difference in H-Y staging score among the three groups (P<0.05), and there was significant difference between the three groups (P<0.05). After treatment, the UPDRS scores of the three groups were lower than those before treatment, and the PDSS scores were higher than those before treatment, the difference was statistically significant (P<0.05), and the difference was statistically significant between the three groups (P<0.05); the level of Arch in the three groups was not statistically significant (P>0.05), and the level of DA was statistically significant (P<0.05). Conclusion Electroacupuncture of head acupoint combined with levodopa and benzerazide hydrochloride tablets has significant curative effect on Parkinson's disease, clinical worth promoting.

Key words: Parkinson's disease; Head acupoint; Electroacupuncture; Levodopa and benzerazide hydrochloride tablets

Development and Innovation of traditional Chinese medicine
Teacher-inherited Education

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Abstract
Considering the mode of traditional Chinese medicine education, this paper expounds the objective evaluation of traditional Chinese medicine teacher-inheritance education and its significance, objectively analyses the shortcomings of traditional Chinese medicine teacher-inheritance education mode from the development situation and needs of contemporary Chinese medicine education, then puts forward that the mode of traditional Chinese medicine teacher-inheritance education should be innovated and developed.

Key words: traditional Chinese medicine; Teacher-Inheritance Education; innovation

Throughout the history of the development of traditional Chinese medicine education, there are many modes of talent cultivation, such as teacher-inheritance, ancestor-inheritance, school education, continuing education, self-study and so on, among which teacher-inheritance education is one of the main ways of training traditional Chinese medicine talents in ancient times. In the history of Chinese medicine, the formation of many schools relies on this unique teaching mode. In today's society, traditional Chinese medicine education is facing a series of problems. Does the traditional Chinese medicine teacher acceptance education abandon or retain? Why, and how? How to inherit and innovate?

Objective

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Through the analysis of the development, advantages and disadvantages of TCM teacher-based education, we can find and get the way of TCM education in the new era.

**Materials and methods**

The value and significance of traditional Chinese medicine inheritance in traditional Chinese medicine education is known as empirical medicine, while teacher inheritance education is the inheritance and development of traditional Chinese medicine experience. In the process of teacher-to-student education, teachers and students are the relationship between teachers and apprentices. Teachers and apprentices get along with each other like fathers and sons, they are taught orally and understood internally. The master hands on the medical theory, curative effect characteristics, practical experience and so on to teach the apprentices; the apprentices in the process of attending and learning with the teacher, constantly understand and appreciate the master's clinical thinking, rationale and prescriptions, not only enhance the apprentices' belief in medicine, but also enable the apprentices to learn in learning, thus promoting the further development of traditional Chinese medicine. Especially for those unique experiences and expertise that "can only be understood but can not be spoken", only through listening, listening and speaking, can the disciples understand the spirit of . Therefore, teacher-inheritance education can preserve and inherit the characteristics and academic ideas of traditional Chinese medicine in the most complete way.

Of course, nowadays the society is quite different from the ancient society. In the modern society where population and information explosion and science are emphasized, it is difficult for traditional Chinese medicine education to adapt to the needs of the society by relying solely on the traditional education mode inherited by teachers.

There are many deficiencies in the traditional Chinese medicine doctor-acceptance education in ancient times. It is difficult for students to understand and comprehend some systematic theories of traditional Chinese medicine. The training or growth cycle is long, and it can not adapt to the training mode of modern Chinese medicine doctors well. Therefore, the contemporary traditional Chinese medicine doctor-acceptance education must be based on the systematic teaching of medical colleges and universities, and the basic knowledge of traditional Chinese medicine and Western medicine must be learned and mastered in the early stage Basic skills and methods, including humanistic medicine and interdisciplinary knowledge, should also have certain clinical experience, which is also a necessary condition for selecting and training advanced Chinese medicine talents through teacher-to-student mode. Only the medical talents trained by the contemporary TCM doctor-in-charge education based on the systematic teaching in medical colleges and universities can have a deeper and more thorough understanding of the clinic, and grow and develop faster. Of course, medical professionals who are willing to take the initiative to receive teacher-based education are all supporters of the cause of traditional Chinese medicine and have the initiative to study actively. Especially doctors who have certain clinical experience believe and understand the scientificity and effectiveness of traditional Chinese medicine more, and cherish the opportunity of re-learning more. They also take the initiative to raise problems and find problems in the process of learning from teachers. The answer is to summarize, inherit and carry forward the academic experience of the tutor with mission and responsibility.

**Results and discussion**

We should objectively analyze the advantages and disadvantages of traditional Chinese medicine teachers' inheritance education, constantly improve, develop and innovate the contemporary model of traditional Chinese medicine teachers' inheritance education, so as to better develop traditional Chinese medicine.

Give full play to the enthusiasm and initiative of both teachers and apprentices, facilitate the inheritance and development of clinical experience and academic ideas, and effectively cultivate students'solid basic knowledge of traditional Chinese medicine, ability of integrating theory with practice, etc. Therefore, in order to train outstanding talents of traditional Chinese medicine, teacher-inheritance education is an indispensable teaching mode of traditional Chinese medicine, but in order to integrate with modern society, we must base on College education, and then strive for higher-level traditional Chinese medicine teacher-inheritance education, so that we can better
cultivate excellent inheritors of traditional Chinese medicine with good traditional culture and noble medical ethics.

References:

Literature research on acupuncture manipulation

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Abstract:
Acupuncture manipulation is a method to stimulate acupoints through meridians with different needles and tools in a certain way, so as to prevent diseases, slow down clinical symptoms and promote patients to restore body health. In this paper, the origin and flow of acupuncture manipulation were combed to promote the progress of acupuncture manipulation and provide theoretical basis for clinical application.

Key words: acupuncture manipulation, literature research, acupuncture and moxibustion[

Objective:
By combing the origin and flow of acupuncture techniques, statistics of acupuncture techniques in different periods, explore the differences of acupuncture techniques in different periods, clarify the evolution process, in order to help the subsequent development. Research methods: relevant literatures were reviewed and sorted out by means of academic research and literature review.

Methods:
Relevant literatures were reviewed and sorted out by means of academic research and literature review.

Results:
From the spring and autumn and warring states period to the qin and han dynasties, from the sui and Ming dynasties to the republic of China, China has been rejuvenated and developed continuously.

Conclusion:
The medical practitioners of all dynasties have conducted in-depth research on acupuncture and moxibustion techniques, and improved and innovated them on the basis of predecessors to expand the application scope of acupuncture and moxibustion. However, due to the diversity of modern medical research on acupuncture manipulation and the limitation of its dissemination, many acupuncture manipulations are lost or only known by a few people, and different acupuncture manipulations may lead to different acupuncture effects, so the results of acupuncture research may be biased due to the influence of acupuncture manipulations. Therefore, sorting out and collecting the data of acupuncture manipulations is conducive to the research and development of acupuncture manipulations, so as to provide ideas for subsequent research.
Based on the JNK and ERK signaling pathways, the effect of juglone on the apoptosis of lung Cancer A549 cells was studied

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Abstract
Malignant tumor has become one of the important diseases seriously endangering human health, ranking after vascular disease, it has become the second fatal disease[1]. Lung cancer is the largest malignant tumor threatening human life and health, with high incidence and mortality. The 2010 cancer report published by WHO/IARC suggests that the number of new lung cancer cases and lung cancer deaths in 2008 were 1.61 million and 1.38 million respectively. With the deepening of our research on basic and clinical medicine, the role of traditional Chinese medicine in tumor prevention and treatment has been paid more and more attention. In recent years, scholars After extensive extraction of the effective components of traditional Chinese medicine, animal experiments and clinical trials have made breakthrough progress, and the effect in the prevention and treatment of malignant tumors has been remarkable. In view of the high incidence and refractory of tumor, it has become an urgent problem to explore its pathogenesis and find effective drugs.

Key words:  Juglone;lung cancer;A549;apoptosis;JNK and ERK signaling pathways

Objective:  based on the experimental study of JNK and ERK signaling pathways on the regulation of juglone on the apoptosis of A549 lung cancer cells, this study provides a new idea for Juglone as a treatment for non-small cell lung cancer, and provides a necessary theoretical basis for the clinical feasibility and research of Juglone.

Matherial and methods:
In this study, A549 cells were cultured in vitro and the effects of Juglone at different concentrations and time were studied. Cell viability was detected by MTT assay,cellmigration;Western blot assay was used to detect Caspase-3,Caspase-9,Bcl-2,Bax,Cyt C,pERK and pJNK protein levels were detected by scratch test and Transwell assay,apoptosis was detected by flow cytometry. In addition,we also used HE staining and immunohistochemical staining to investigate the effect of Juglone on nude mice transplanted tumor model.

Results and discussion:
Juglone promote apoptosis of lung cancer A549 cells by regulating JNK,ERK signaling pathway. By inhibiting the expression of Bcl-2,pJNK protein and up-regulating the expression of Bax,Caspase-3,Caspase-9 and Cyt C, the expression of Perk promoted the apoptosis of A549 cells. Juglone up-regulate the expression of Bax,Caspase-3,Caspase-9 and inhibit the expression of Bcl-2 protein, thus inhibiting the growth of A549 in nude mice.Juglone can inhibit the proliferation and migration of lung cancer cell line A549.

MTT assay showed that Juglone decreased A549 cell viability in a concentration-dependent manner. The optimal concentration was 20μmol/L.Scratch test showed that the migration rate of A549 cells treated with 20μmol/L Juglone for 24h and 48h was lower than that of the control group, and the migration of A549 cells was inhibited significantly at 48h.Transwell results showed: With the increase of the concentration of Juglone,the migration quantity of A549 cells decreased with the increase of the concentration of Juglone detected by Transwell for 48h.The results of Flow Cytometry showed that Juglone inhibited the apoptosis of A549 cells at 48h, and increased with the drug concentration Western blot showed that Juglone inhibited the expression of Bcl-2 and ERK proteins. The expression levels of Bax,Caspase-3,Caspase-9,Cyt C and pJNK were significantly increased . HE staining was used to observe the section of xenograft tumor in nude mice. Under the 200-fold field of view, the tumor cells in the control group were of different sizes, closely arranged,
vigorou growth, and intact cell morphology, showing the typical morphology of tumor cells. Compared with the control group, the tumor tissues of the Juglone group showed necrotic areas, conspicuous nucleus blue-staining, fragmented aggregation of cells, and unclear tumor cell growth boundaries. Immunohistochemical staining showed that the expression of Bcl-2 in the Juglone group was lower than that in the control group. The expression of Bax, Caspase-3 and Caspase-9 in the Juglone group was higher than that in the control group. By inhibiting the expression of bcl-2 and pERK proteins, the increased expressions of Bax, Caspase 3, Caspase 9, Cyt C and pJNK promoted the apoptosis of A549 cells. The injection of Juglone can inhibit the growth of A549 transplanted tumor, and inhibit the growth of tumor by inhibiting bcl-2 and up-regulating Bax, Caspase 3 and Caspase 9. Meanwhile, Juglone inhibited the proliferation and migration of A549 cells to inhibit tumor growth.

Apoptosis is the main defense mechanism of tumor development, which is very important to immunity, development and tissue balance in vivo. Bcl-2 family proteins control cell survival and mitochondrial suicide apoptosis[2]. In programmed cell death, mitochondrial apoptosis may be the most common form and remove redundant, infected or damaged cells. Apoptosis procedures divide cells into vesicles, which are then removed by phagocytosis and play a protective role. The initiation of apoptosis leads to the activation of Caspases and the expression of cysteinease in the form of proenzyme. After activation, the proenzyme is lysed, which makes it functional and can cleave the target substrate. When apoptosis is induced, for example, due to the excessive damage of DNA, this will result in a signal transduction pathway, which will eventually lead to the destruction of (MOM) in the outer membrane of mitochondria. This is helpful for Cyt C to release. Cyt C from plasmid membrane space into cytoplasm and begin to form apoptotic protein complex. Apoptosis protease activating factor 1 (Apaf1) binds to Cyt C and activates Caspase-9, in a ATP dependent manner. Activate Caspase-9 and then cleave its target protein, including Caspase-3, which is the convergence point between Caspase and external apoptosis. It can be concluded that Juglone has the effect of inhibiting tumor growth. In this experiment, the expression of Caspase-3, Caspase-9 and Bcl-2, Bax and Cyt C, pJNK and pERK were detected by Western blot. Juglone may inhibit the expression of Bcl-2 and ERK, and increase the expression of Caspase-3, Caspase-9, Bax, Cyt C and pJNK. Under the action of Juglone, a large number of Cyt C release may lead to the production of apoptotic complexes, thus activating the Caspase-9 initiator protein and regulating the executive protein Caspase-3, induced apoptosis of A549 cells. Erk pathway is one of the important pathways of cell proliferation. Juglone inhibits the overexpression of ERK in lung cancer[3]. The expression of Caspase-3, Caspase-9 and Bcl-2, Bax protein in transplantation tumor was detected by immunohistochemistry. The results showed that the expression of Bcl-2 decreased, while the expression of Caspase-3, Caspase-9 and Bax protein decreased. Western blot detected the increase of phosphorylated JNK and the decrease of ERK expression under the action of walnut quinones. It suggests that Juglone may pass through MAPK pathway, JNK, mediated apoptosis protein Bcl-2, to change mitochondrial membrane potential, resulting in the release of Cyt C, and then activate Caspases cascade to induce apoptosis of A549 cells, and inhibit downstream signal pathway and proliferation ability of A549 cells by inhibiting ERK phosphorylation level[4]. Therefore, the detection of Bcl-2, Bax, Cyt C, caspase-3, caspase-9, pJNK and pERK proteins suggests that Juglone may induce apoptosis and inhibit cell proliferation by mediating JNK, ERK pathway and mitochondrial pathway. The number of tumor cells decreased, suggesting that walnut quinone group can inhibit the growth of tumor cells. In the detection of migration ability by Transwell assay, the effects of different concentrations of Juglone the migration ability of A549 cells were observed. With the increase of drug concentration, the number of cell migration decreased gradually.

References:

**Experimental study on the effect of smmc7721 on human liver cancer of Hedyotis diffusa herba, Scutellariae barbatae herba Compatibility angelicae sinensis decoction for supplementing blood**

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**Objects:** Study on the molecular mechanism of hedyotis diffusa herba (HDH) & scutellariae barbatae herba (SBH) with heat-cleaning and detoxifying "elimination method " anti-tumor, and angelicae sinensis decoction for supplementing blood (ASDSB) with fuzheng guben “supplementation method” anti-tumor, and two together with “elimination and supplementation method” anti-tumor, provide relevant experimental study for using drugs to form a prescription on clinic, and to lay the foundation for research and development of new clinical preparation.

**Materials and methods:** Using human hepatocellular carcinoma cell line SMMC7721 as material, the following experiments were carried out: (1) Determined anti-tumor activity of HDH-SBH, ASDSB, and the two together by MTT; (2) Used the DAPI to observe apoptotic morphology of tumor cells; (3) Used QRT-PCR to observe the gene expression of P53, MYC in tumor tissue, in order to find the signal transduction mechanism of anti-tumor effect of different compatibility of traditional Chinese medicine.

**Results and discussion:**
1. The IC50 value of HDH-SBH group was 1.022; that of ASDSB group was 6.643; and that of two-party group was 1.888. It is concluded that the combination of hedyotis diffusa herba (HDH) & scutellariae barbatae herba (SBH) has the strongest antitumor effect.
2. In HDH-SBH group, apoptotic bodies were obvious and cell damage was serious; in ASDSB group, there was only a little nucleus deformation in the apoptotic cells; in that of two-party group, the cell nucleus was crescent-shaped and the cell damage was mild.
3. The expression of p53 was up-regulated (P<0.05) and myc was down-regulated (P<0.05) in three groups of TCM combinations, which indicated that the compatibility group of HDH & SBH, the combination group of them with ASDSB may play an anti-tumor role by influencing the anti-oncogene and oncogene. The compatibility of HDH & SBH is the strongest, and the combination with ASDSB has a certain protective effect on the body.

**Keywords:** hedyotis diffusa herba, scutellariae barbatae herba, angelicae sinensis, p53, myc

**References:**
Effect of Shaqi Capsule on Akt、p-Akt Protein Expression in Rats with Diabetic Nephropathy

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Abstract
Diabetic nephropathy (DN) belongs to a kind of microvascular disease, which can be clinically manifested as decreased glomerular filtration rate, microalbuminuria, elevated arterial blood pressure, proteinuria and fluid retention. Shaqi granules has the therapeutic effect of DN and related diseases experience exactly. This study showed that Shaqi granules can significantly improve renal damage in rats with diabetic nephropathy. The molecular mechanism could be related to shaqi Granules participate in inhibiting Akt、p-Akt protein expression.

Key words: Shaqi Granules, Diabetic Nephropathy, Akt, p-Akt

Objective
To clarify the effect of Shaqi granules on renal injury in diabetic nephropathy (DN) rats, and to explore the molecular mechanism of Shaqi Granules modulating PI3K/Akt signaling pathway.

Materials and methods
Model rats were given intragastric fat emulsion for 32 consecutive days and the intragastric administration dose was 10 ml/(kg·d). After the last intragastric administration of fat emulsion, animals were fasted for 12 hours and were given intraperitoneal injection of streptozotocin (STZ) 40 mg/(kg·d) for 2 consecutive days. Blood glucose was monitored after 72 hours. Fasting blood glucose ≥16.7 mmol/L hyperglycemic rats were selected to further maintain the hyperglycemic state of the rats for 4 weeks, and urinary protein was detected. Rats with urinary microalbumin higher than 20 mg for 24 hours were selected as the DN model. Western-blot detection of Akt and p-Akt protein expression levels in kidney tissue.

Results and discussion
Compared with the model group, the expressions of Akt and p-Akt protein in renal tissues of rats in each administration group decreased to varying degrees. The mechanism of Shaqi Capsule in improving kidney injury in DN rats may be related to the inhibition of Akt and p-Akt protein expression and further inhibition of PI3K/Akt signaling pathway in DN rats.

References:
Effect and mechanism of Zhengan Xifeng decoction on myocardial fibrosis in hypertensive rats

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Abstract
Starting from the treatment of myocardial fibrosis in hypertensive rats with Zhengan Xifeng Decoction, this paper explores its effect and mechanism.

Key words: Zhengan Xifeng Decoction; Essential Hypertension; Myocardial Fibrosis; Myocardial Fibroblasts

Research purposes
The effect and mechanism of Zhengan Xifeng Decoction-containing serum on myocardial fibroblasts after Ang-II stimulation were observed in vitro. The antihypertensive effect of Zhengan Xifeng Decoction on hypertensive rat model and its effect on myocardial fibrosis were observed in vivo.

Research methods
In vivo experiments: 10 Wistar rats served as blank group; 40 spontaneously hypertensive rats (SHR) were randomly divided into 4 groups of 10 rats. Respectively: model group, positive drug group, Zhengan Xifeng decoction high dose group, Zhengan Xifeng decoction low dose group. The blank group and model group were given distilled water containing 5% sodium carboxymethyl cellulose, the positive drug (captopril) 13.5 mg / (kg·d), the high dose of Zhengan Xifeng decoction 3.44 g (crude drug) / (kg·d), Zhengan Xifeng decoction low dose of 0.86 g (crude drug) / (kg·d). Rat per 100 g administered 1 ml, once daily, continuous gavage for 8 weeks. Test indicators are as follows: (1) The general status. (2) SBP was measured by noninvasive tail cuff method in every two weeks before and after the experiment. (3) Body weight, left ventricular mass (LVW) and left ventricular mass index (LVI) were calculated. (4) HE staining observed heart morphology. (5) ELISA method for the determination of Ang-II, ALD, MDA, SOD expression levels. (6) The expression of Collagen I, Collagen III, TGF-β1, MMP-1 and TIMP-1 were detected by immunohistochemistry. (7) The levels of ATR1 mRNA, ACE mRNA, TGF-β1 mRNA, eNOS mRNA and NO mRNA in heart tissue were detected by PCR. (8) Western Blot was used to detect the expression of ATR1, ACE, eNOS and NO in cardiac tissue.

In vitro experiments: 30 rats were randomly divided into 3 groups of 10 rats, respectively, blank serum group, positive serum group, Zhengan Xifeng decoction containing serum group. Grouping: blank group: DMEM+blank serum; model group: Ang-II+blank serum; positive group: Ang-II+positive serum ; Zhengan Xifeng soup group: Ang-II+different concentrations of drug-containing serum. Test indicators are as follows: (1) MTT assay cell proliferation. (2) The ELISA method was used to detect the expression of Collagen I and Collagen III. (3) Western Blot was used to detect the expression of TGF-β1 and smad2 protein.

Experimental results
In vivo experiments: (1) Zhengan Xifeng Decoction group rats during the fight to reduce the phenomenon of fighting each other; reduce the level of mental hyperactivity. (2) Zhengan Xifeng Decoction group rats showed a steady and long-lasting decline in systolic pressure. (3) There was no significant difference in body weight between groups (p>0.05). Zhengan Xifeng Decoction can inhibit left ventricular weight in rats decreased left ventricular mass index. (4) Histopathological observation shows that Zhengan Xifeng Decoction can inhibit myocardial fibrosis, reduce inflammatory cell infiltration and inhibit myocardial interstitial edema. (5) Zhengan Xifeng Decoction can mainly decrease Ang-II, ALD and AT1R, ACE gene and protein expression in the regulation of RAAS. (6) Zhengan Xifeng Decoction can reduce Collagen I, Collagen III content. (7) Zhengan Xifeng Decoction can inhibit TGF-β1 activity and gene expression. (8) Zhengan Xifeng Decoction can reduce the content of MDA and SOD, and inhibit the expression of eNOS, NO gene
and protein in the regulation of myocardial oxidative stress. (9) The effect of Zhengan Xifeng Decoction on matrix metalloproteinase and its inhibitors In order to reduce the expression of MMP-1, increase the expression of TIMP-1 and decrease the ratio of MMP-1 / TIMP-1.

In vitro experiments: (1) Isolated and cultured myocardial fibroblasts purity of more than 90%. (2) Fibroblasts stimulated by Ang II, proliferation was obvious. Zhengan Xifeng Decoction serum can reduce fibroblast proliferation rate. (3) Zhengan Xifeng Decoction serum containing Collagen I, Collagen IV content. (4) Zhengan Xifeng Decoction serum can inhibit the expression of TGF-β1, smad2 protein.

Conclusion
1. Zhengan Xifeng Decoction in rats with essential hypertension has a sustained and sustained antihypertensive effect.
2. Zhengan Xifeng Decoction can regulate the renin-angiotensin-aldosterone system, reduce the abnormal expression of collagen, stabilize the signal transduction system related to TGF-β1, correct the abnormal oxidative stress reaction and regulate the balance of matrix metalloproteinase, playing a role in reversing myocardial fibrosis.
3. Zhengan Xifeng Decoction containing serum can inhibit Ang II-induced myocardial fibroblasts over-proliferation, reduce abnormally increased collagen content, stabilize the TGF-β1 / smad2 signaling pathway, regulate myocardial cell abnormal metabolism and secretion, thereby improving promote the activation of cardiac fibroblasts and promote the formation of myocardial cell microenvironment.

The effect of electro-nape-acupuncture to proteins expressions of apoptosis and autophagy in hippocampal neurons of vascular dementia rat

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Abstract
In this study, the modified Pulsinelli four-vessel occlusion method was used to prepare the vascular dementia(VD) rats model, the dense and sparse wave electro-nape-acupuncture were given to intervene. To explore the effect and neuroprotective mechanism of electro-nape-acupuncture on expression of apoptosis and autophagy related proteins in hippocampal neurons of VD rats. To analyze the best wave pattern of electro-nape-acupuncture in treating VD, and further explore the different effects and mechanism of dense and sparse wave electro-nape-acupuncture in treating VD, optimize the treatment of VD by it. In order to provide scientific basis for its clinical application.

Key words: Electro-Nape-Acupuncture; vascular dementia; apoptosis; autophagy

With the aging of human society, the incidence of cerebrovascular diseases have increased year by year, and the incidence of VD has also increased. According to statistics, about 25% to 41% of stroke survivors over 60 years old will develop VD within three months 1. Relevant studies have confirmed that 2,3, by regulating apoptosis and autophagy of hippocampal neurons in VD rats, can effectively slow down neuronal damage caused by VD and improve their learning and memory ability. The main acupoints of electro-nape-acupuncture therapy are ‘fengchi’ and ‘gongxue’ points. It has been used for many years in the clinical treatment of VD and achieved satisfactory results. However, its specific mechanism of action is still unclear and needs further exploration.

Objective
This paper aims to investigate the effect of dense and sparse wave forms of electro-nape-acupuncture on neuron apoptosis and autophagy related proteins in VD rats, and to optimize the treatment of VD with electro-nape-acupuncture, and to provide objective experimental evidence for clinical application.

Materials and methods
82 healthy male SD rats were randomly divided into 16 in sham operated group and 66 in model building group. Rats in the model building group were treated with modified Pulsinelli four-vessel occlusion method to prepare rat VD model of global cerebral ischemia. The sham operated group only exposed four blood vessels and did not blot vessels. The 48 VD rats were randomly divided into 3 groups, the model group, the dense wave group and the sparse wave group, and added the sham operated group, it was just 4 groups, there are 16 rats in each group. The treatment was started with the eighth day after surgery. The dense wave group applied the dense wave (50Hz) electro-acupuncture at ‘fengchi’ and ‘gongxue’ points, and the sparse wave group used sparse wave (2Hz) electro-acupuncture at ‘fengchi’ and ‘gongxue’ points. It should continue to electro-acupuncture stimulate points for 30 minutes, once a day, continue treatment for 14 days. The sham operated group and the model group were given the same conditions to catch, bind and fix without any perform treatment.

After the treatment, Y-maze test was performed to examine the behavioral changes in the rats. HE staining was used to observe the morphological changes of rat hippocampus. The TUNEL was used to detect the neuronal apoptosis in rat hippocampus. The transmission electron microscopy was used to detect neuronal autophagy in rat hippocampus. The Western blot was applied to detect Bel-2, Bax, LC3, Beclin 1, p62 proteins expressions in rat hippocampus.

**Results**

1. The results of the Y-maze test: compared with the sham operated group, the spontaneous alternation rate of the model group was significantly decreased \( (P<0.01) \) and the stay time of the new arm in the model group was significantly reduced \( (P<0.01) \). Compared with the model group, the spontaneous alternation rate of the dense wave group and the sparse wave group was significantly increased \( (P<0.05, \ P<0.01) \) and the stay time of the new arm was significantly prolonged \( (P<0.01) \). Compared with the dense wave group, the spontaneous alternation rate of the sparse wave group was significantly increased \( (P<0.05) \), and there was no significant difference in the stay time of the new arms between the sparse wave group and the dense wave group \( (P>0.05) \). The time ratio of rats in each group compared with the random probability of 33.33\%, the stay time of the new arm in the dense wave group was prolonged without significant difference \( (P>0.05) \), while the stay time of the new arm in the sparse wave was significantly prolonged \( (P<0.05) \).

2. The HE staining results: the neuron cells in the rat hippocampus of the model group were poor in morphology, irregular in shape, arranged disorderly loose, interstitial edem, nuclear condensation, the gap between the neuron and the surrounding tissue was increased and loss of neurons obviously. The neurons in the hippocampus of the dense wave group and the sparse wave group were relatively intact and arranged in a uniform manner, the interstitial edema was significantly reduced, the nucleus pyknosis was reduced, the degree of deep staining was reduced, the gap between the neuron and the surrounding tissue became smaller and loss of neurons.

3. The results of TUNEL: compared with sham operated group, the number of apoptosis cells and the apoptotic index of neuron in the model group were increased significantly \( (P<0.01) \). Compared with the model group, the number of apoptosis cells and the apoptotic index of neuron in the dense wave group and the sparse group were decreased significantly \( (P<0.01) \). Compared with the dense wave group, the number of apoptosis cells and the apoptotic index of neuron in the sparse wave group were significantly decreased \( (P<0.05) \).

4. The results of Western blot detection of apoptosis related proteins: compared with the sham operated group, the Bel-2 protein expression was decreased \( (P<0.01) \), the Bax protein expression was increased \( (P<0.01) \) and the Bel-2/Bax ratio was reduced \( (P<0.01) \) in the hippocampus of the model group rats. Compared with the model group, the Bel-2 protein expression was increased \( (P<0.01) \), the Bax protein was expression decreased \( (P<0.01) \) and the Bel-2/Bax ratio was increased \( (P<0.01) \) in the hippocampus of the dense wave group and the sparse group rats. Compared with the dense wave group, the Bel-2 protein expression was increased \( (P<0.01) \), the Bax protein expression was decreased \( (P<0.01) \) and the Bel-2/Bax ratio was increased \( (P<0.05) \) in the hippocampus of the sparse wave group rats.

5. The transmission electron microscopy results: the hippocampal neurons of the model group
rats exhibited many bilayer membrane structures, encapsulated cytoplasm, mitochondria and other organelles, forming autophagosomes. A small amount of autophagosomes were observed in the hippocampal neurons in the dense wave group and sparse wave group.

6. The results of Western blot detection of autophagy associated proteins: compared with the sham operated group, the LC3-II/LC3-I ratio was increased, Beclin 1 protein expression was significantly increased and the p62 protein expression was decreased \((P<0.01)\) in the hippocampus of the model group rats. Compared with the model group, the LC3-II/LC3-I ratio was decreased, Beclin 1 protein expression was significantly decreased and the p62 protein expression was increased \((P<0.01)\) in the hippocampus of the dense wave group and sparse wave group rats. Compared with the dense group, the LC3-II/LC3-I ratio was decreased and the p62 protein expression was increased \((P<0.01)\) in the hippocampus of the sparse wave group rats.

Conclusion

In conclusion, we speculate that the model of global cerebral ischemia in VD rats can induce apoptosis and over-activation of autophagy of hippocampal neurons, leading to severe damage of hippocampal neurons, showing spatial memory impairment. Electro-nape-acupuncture may play a neuroprotective role by regulating apoptosis and autophagy of hippocampal neurons, thus improving spatial memory ability of VD rats. And in all aspects of improvement, the sparse wave is better than the dense wave, which optimizes the treatment of VD by electro-nape-acupuncture.

References


Research progress of acupuncture in the treatment of functional dyspepsia

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Abstract: This paper summarizes the mechanism of acupuncture treatment of functional dyspepsia in recent years from both clinical and basic aspects. This paper discusses acupuncture mechanism from electrophysiology, imaging, molecular biology, metabolism and genomics, and provides theoretical basis for clinical treatment of functional dyspepsia. The mechanism of acupuncture treatment of functional dyspepsia may be abnormal with gastric motility, dysfunction of the central nervous system, the secretion of brain enteropeptide is disorder, the change of plasma molecular metabolite content and gene expression abnormality were related.

Key words: Acupuncture; functional dyspepsia; mechanism;Summary

FD is a common disease affecting adults in the eastern Asian (Asian) region and Western (North America and Europe), with a prevalence ranging from 5% to 40%. Although FD is not a life-threatening disease, it significantly reduces the quality of life of patients and brings enormous financial burden to the medical system. Acupuncture and moxibustion treatment of FD has achieved good results and has been recognized at home and abroad. It is expected to replace in the treatment of drugs. The following review summarizes the mechanism of acupuncture treatment of FD from electrophysiology, imaging, molecular biology, metabonomics and genomics.

Summary:
To sum up, the mechanism of acupuncture for the treatment of functional dyspepsia is multifactorial, and electrophysiology has studied the benign mechanism of acupuncture regulating gastric motility. Iconography mainly analyzed the central response mechanism of acupuncture treatment of FD, emphasizing the importance of the integration of limbic systems and brain regions. Molecular biology analyses the changes of brain gut peptide after acupuncture treatment to prove the mechanism of acupuncture regulating the brain gut axis. Metabonomics studied the changes in the content of macromolecular metabolites to small molecule metabolites after acupuncture, and genomics technology detected the related genes of acupuncture for the treatment of FD, and entered a more micro level. Acupuncture treatment of FD is whether various factors are regulated by layers or co regulation, which needs further study. In the future, we should strengthen the research of multi technology synchronization and large sample research, dig deep into the mechanism of acupuncture treatment of functional dyspepsia, and explore new fields of mechanism research.

Two Effective Cases Treated with External Treatments of JIN’GUIYAOLVE

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Abstracts:External treatments of JIN’GUIYAOLVE were characterized by convenient application,special use of herbs and flexible changes with symptoms.They were both used to assist internal treatments and worked to lesions directly.In some cases they can substitute for internal treatmens to avoid side effects.This paper reported two effective clinical cases treated with Codonopsis decoction and Headwind Massage powder which belonged to JIN’GUIYAOLVE external treatments for stubborn vulva skin pruritus and headache,in order to reveal the efficacy of JIN’GUIYAOLVE external treatments.

Key words:external treatments of IN’GUIYAOLVE;Codonopsis decoction;Headwind Massage powder;stubborn vulva skin pruritus;headwind

JIN’GUIYAOLVE was a classical Traditional Chinese Medical(TCM) book which discussed about internal diseases specially.The internal treatments and prescriptions in it have been hot research ares for hundred years,as well as the external treatments and prescriptions in it were doubt for the effects to such internal diseases.Actually,the external treatments and prescriptions in it has important clinical value and embodied overall view and symptom view of Zhang Zhongjing,who was the author of the book.This paper reported two effective clinical cases treated with JIN’GUIYAOLVE external treatments,in order to reveal the efficacy of JIN’GUIYAOLVE external treatments.

1. Case treated with codonopsis decoction
Basic Information:Female,31 years old.9 months after perineotomy for the second child.
Initial date:December 7th,2018.
Symptoms an Causes:The patient was suffered from vulva skin pruritus which aggravat at night and caused insomnia for two months.Those symptoms seriously influenced the patient’s life and work.To patient,there seemed no obvious cause.
Medical History:The gynecological inflammation,various infections or vulvaldystrophy had been excluded by almost all the hospitals in Harbin with gynecological internal examination and physical or chemical examinations.After the external use of Clotrizole vaginal tablets,seabuckthorn oil,etc,which prescribed by the doctors from those hospitals ,there was a tendency to aggravate.
Signs:There were no lichenoid changes,blister,ulcer or red swollen on the vulva skin,but some fresh scratches.The temperature was normal besides there was no fear to hot or cold.The face and eyes color seemed normal,as well as the strength and mood.In particular,the tougue was crimson and fat with white and thick coat in the middle of it(see Figure1).Meanwhile,the appetite decreased.
Analysis: The pruritus was caused by the cicatrix of the perineotomy. Though the skin seemed healed already, the internal muscle and anadema tissues must had scars. When there was some influence hamper blood flow, the cicatrix will indicate abnormal sensations, such as pruritus. To this patient, the influence is wet, which shows on her tongue and appetite.

Treatment: Because the patient was still in lactation, it was feared that the odor of the drug taken internally might affect the taste of milk. Therefore, the first consideration was washing vulva with Codonopsis decoction reported in JINGUIYAOOLVE, which could not only effect nearby, but also convenient to practice for a mother carrying two little children.

Prescription: Codonopsis 50g with 1.5L water per day, boiled together for 30 minets, then cool to 40℃ and wash vulva skin 2 or 3 times everyday.

Curative effect: The first morning after the treatment, the patient had a good sleep as the pruritus decreased. The pruritus almost gone after three days treatment.

2. Case treated with Headwind Massage powder

Basic Information: Female, 36 years old, cultural worker, had not given birth.

Initial date: June 21st, 2018

Symptoms an Causes: The patient complained of feeling cool wind on right area of os parietale since she slept in an air-conditioned car last summer. This summer the condition came even worse once she be in the air-conditioning environment, unluckily her workplace was air-conditioning that she could not avoid from. Therefore, she intended to cure the disease.

Medical History: The patient never had any examination or treatment because of the busy work.

Signs: There was no particular sign on the head or body but thin.

Analysis: TCM believes that, when the skin is moist and leaking, it’s common to stroke by the wind which hurts YANGQI of the body surface. At the same time, the wind takes the opportunity to enter and stay in the area where the QI and blood is poor. The original time of this case was summer when the humidity increased causing the skin moist, as well as the YANGQI of the body surface was neglected during the sleep. At the same time, cold wind from the air conditioning stroked the nearby area of the body surface. In addition, the patient's physical health was not so good that she had been treated by the author for itchy rash.

Treatment: Because the cause was obvious and certain, besides the symptom was external and limited, the author treat her with the external drug, Headwind Massage powder, reported in JINGUIYAOOLVE. Though the special symptom of that powder was not reported in the book, but researchers believes that the headache with feeling of wind is the main symptom[1].

Prescription: Blast-fried aconite and large-grain salt 20 gram seach, pulverize and mix together. Massage the focus with the powder for 15-20 minutes after washing hair without dry, then clean up the powder. Dry the hair with a hairdryer when the hair is half dry naturally.

Curative effect: One week after using, the symptom decreased. 20 days later, the symptom further decreased and the patient wanted to keep on using.

3. Discussion: The principle of external treatment is that the active ingredients of drugs can be absorbed though skin or mucous membranes directly, and effects both outside and inside through the meridian and blood. Due to the fact that the external medicine is not absorbed by gastrointestinal, the First-pass Effect of the liver is not involved, and the toxic side effects are low. Without the decomposition of a variety of metabolic enzymes in intestinal epithelial cells and the biochemical barrier formed by the drug exhaust pump, the drug concentration will not be reduced or the absorption of drugs will not be hindered[2]. The patients in these two cases had been diagnosed and treated remotely on the basis of accurate syndrome. The selection of external

Figure 1
Regulation mechanism of BuYangHanWu decoction effects on APP/PS1 mice Neuronal Vascular Unit RAGE/LRP1 receptor system

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Abstract
Alzheimer disease (AD) is one of the major causes of dementia, and incidence increased year by year. Its main pathological features include the loss of senile plaques and neurons caused by the sediment of amyloid protein (Aβ) outside the cells. Bu Yang Huan Wu Tang (BYHWT) was effective on the treatment of the cerebrovascular accident in clinical practice. Our previous research showed that BYHWT could improve the ability of learning and memory in mice AD, which maybe related with the RAGE/ LRP1 cell signaling pathway.

Key words: BYHWT; Alzheimer disease; microvascular endothelial cells; RAGE/LRP1

Objective
This study will continue to do some research for the function mechanism of BYHWT, to certain whether it can affect the capillaries endothelial cells effect BMEC LRP1 and RAGE to adjust Aβ central metabolism, thereby preventing and treating AD.

Methods
BYHWT extract was prepared according to the clinical administration of decoction. In vivo APP/PS1 transgenic mice which were 7 months old were selected as AD model, using PCR to validate APP and PS1 gene expression. APP/PS1 mice were randomly divided into 5 groups: the model group, the positive drug group, the BYHWT high, medium and low dose groups, selected another 20 C57BL/6 mice as the control group. The control group and model group were given the same volume of saline, the positive drug group was given donepezil 0.001 g·kg⁻¹, high, medium and low dose groups were given 37.06, 18.53, 9.26 g·kg⁻¹ BYHWT (raw drug) separately, and fed for 35 days and then done the Morris water maze experiment to test the mice’s ability of learning and memory, hematoxylin-eosin staining, transmission electron microscopy and Tunel staining were used to observe mice’s morphology and apoptosis of hippocampus, the morphological changes of microvessels in hippocampus of mice were observed by transmission electron microscope, the expression of apolipoprotein LRP1, RAGE, ApoJ and VCAM was detected by immunohistochemistry. In vitro Mice brain microvascular endothelial cells were cultured by the cell nutrient fluid of 24 μM Aβ25-35, simulate the AD cell mode, intervened with the 150 μmol/L BYHWT. The general morphology of cells was observed by light microscope, the ultrastructure of the cells was observed by TEM, the method of ELISA was used to detect the inflammatory factors of IL-1β, IL-6, TNF-α and the secretion of Aβ25-35, flow cytometry to test apoptosis rate, method of WB to test the protein expression of RAGE, LRP1, ICAM, VCAM, ApoJ, ApoE and NF-κB of the cells.

Results and discussion
In vivo Morris water maze experiment showed that, in the experiment of space exploration, compared with the model group, the number of mice crossing the platform was less than BYHWT high, medium dose groups, and the positive drug group, and the residence time of target quadrant
was prolonged. In the experiment of the positioning navigation, the escape latent period of mice was shorter than BYHWT high, medium dose groups, and the positive drug group. HE staining showed that, the arrangement of cells in the hippocampal CA1 region of the mice from the control group was regular, while the model group was disordered, and with fewer cell layers, uncleared nucleolus. The arrangement of cells in the hippocampal CA1 region of the mice from the BYHWT group was regular, with round or oval nucleolus and more cell layers. TEM observed that, hippocampal capillary deformed and narrowed of the model group, with incomplete endothelial cells, large vacuoles outside the cavity, and synaptic fusion. After treatment of BYHWT, the morphology of hippocampal neurons was gradually restored. The Tunel method which was used to detect apoptosis showed that, the ratios of cells in hippocampus of high and middle dose groups increased significantly, compared with the model group. IHC displayed that, the expression of LRP1 and ApoJ in hippocampus of high and middle dose groups increased and the expression of RAGE and NF-κBp65 decreased, compared with the model group. In vitro The experiment in vitro showed that, abnormal changes of cell morphology appeared in model group, compared with normal cells, for example, cell rounding, slower proliferation, karyopyknosis, perinuclear space broadening, and etc. Compared with the model group, the cells in the BYHWT low, medium, high dose groups and positive drug group had morphological recovery, among them, the middle and high dose group recovered significantly and high dose group and positive drug group were closest to the normal group. High and middle dose groups could cut down the content of IL-1β, IL-6, TNF-α, Aβ25-35 in cells of the rat induced by Aβ, so as to alleviate the inflammatory reaction induced by Aβ in rat BMEC cells, and at same time, high and middle dose groups could reduce the apoptosis of BMEC cells. Compared with the model group, the expressions of RAGE protein were significantly down regulated, high concentration group was the most obvious. The three concentration groups had significant effect on the expression of LRP1 protein, low concentration group had obvious effect. The expressions of NF-κBp65 protein from the three concentrations were significantly down regulated, and the expression of APOE protein was up-regulated only in the high concentration group. Compared with the model group, the expressions of ICAM-1 and VCAM-1 protein from the three concentrations were significantly down regulated, the middle concentration group and high concentration group had the most obvious effect. The expressions of NF-κBp65 protein from the three concentrations were significantly down regulated, the middle and high concentration group had the most obvious effect.

Conclusions
The BYHWT high and middle dose can improve the learning and memory ability of AD mice, recover the morphology of CA1 area, improve the morphology of endothelial cells in hippocampus, and the mechanism maybe related to enhance the expression of RAGE and weaken the expression of RAGE and NF-κBp65 protein in hippocampus of AD mice. In vitro experiments showed that BYHWT could regulate the metabolism of Aβ by regulating the RAGE/LRP1 transporter, effect the ICAM-1 and VCAM-1 protein mediated vascular endothelial inflammation by inhibiting NF-κBp65 signaling pathway, and improve the morphological changes of mice brain microvascular endothelial cells induced by Aβ, thereby protecting the brain microvascular endothelial cells injury.

References:
Study of Waternut Herb Extract on Aβ SAMP8 Damage of Mouse Hippocampal neurons and the Protective Effect of Metabolomic Study

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Abstract

In this study, APPswe/PS1d E985Dbo/J double transgenic mice were used as AD animal models. Morris water maze test and open-label test were used to evaluate the behavioral changes of mice. After 28 days of intragastric administration of extract of Tongtiancao, the improvement and recovery of learning, memory and spatial exploration ability of AD transgenic mice in Tongtiancao treatment group were observed, and compared with that of mice treated with tacrine, the first-line
drug of AD. To provide the exact experimental basis for exploring the therapeutic effect of radix polygoni on AD.

**Keyword:** Waternut herb; SAMP8 mice; Immunohistochemistry; Metabolic footprinting; Potential target;

**Objective**
To study the metabolic mechanism of protective effect of waternut herb extract on primary Aβ SAMP8 damage of mouse hippocampal neurons by metabolic footprinting.

**Methods**
MTT assay was used to determine the proliferation of primary hippocampal neurons in SAMP8 mice with Aβ damage, the effect for the first time on the basis of metabolic footprinting evaluation waternut herb extract. Focus on key metabolic pathways and related metabolic targets, mechanism of primary Aβ SAMP8 damage of mouse hippocampal neurons and pathogenesis of waternut herb extract.

**Results and conclusion**

**Results:** MTT assay was used to measure the rate of cell proliferation. The results showed that the cell viability of the primary hippocampal neurons was significantly decreased in the Aβ SAMP8 mice. The study found that metabolic footprinting, compared with littermate wild-type mice, neuronal cell metabolism Aβ SAMP8 damage of mouse anomalies mainly concentrated in the metabolism of folic acid and taurine metabolism associated with nerve cells, by high-throughput mass spectrometric analysis and literature database retrieval to determine the 3 differential metabolites, respectively is L-disodium alanine (L-Cysteic acid), dihydrofolate (Dihydrofolate), acid (Chorismate), the branch of small molecule metabolites through extract intervention after Amakusa callback trend obviously. **Conclusion:** the therapeutic effect of waternut herb extract on Aβ SAMP8 damage of mouse primary hippocampal neurons to a certain extent, 3 biomarkers of this discovery may be a potential target of Aβ SAMP8 damage of mouse primary hippocampal neurons in the pathogenesis of waternut herb extract, given after these markers were callback trend in different degree, suggesting that waternut herb extract could regulate metabolism related enzymes and metabolic pathways to protect the purpose, to provide the experimental basis for the treatment of Alzheimer's disease waternut herb extract.

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Experimental Study on Loganin Regulating the Generation of Melanin in UVB-induced Epidermal Melanin Unit

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Abstract

In this study, epidermal melanocyte unit cell model was constructed by co-culture of A375 and Hacat cells in vitro. UVB was selected as inducer to replicate the pigmentation model. To investigate the effects of different UVB irradiation intensity on the proliferation of co-cultured cells, and the effects of UVB on melanin production, tyrosinase activity and expression of P38MAPK signaling pathway protein were also discussed. In order to explore the model of pigmentation in vitro and provide reference for the search of anti-pigmentation drugs.

Key words: loganin, tyrosinase, epidermal melanin unit, P38MAPK

Objective

To discuss the effects of different concentrations of loganin on the generation of melanin in UVB-induced epidermal melanin unit and the mechanism.

Methods
A375 and Hacat cells were co-cultured in vitro as routine, after radiated with UVB 20 m J/cm² and adding nutrient solution containing loganin for 24 hours, cellular proliferation was detected using MTT chromatometry; the activity changes of tyrosinase were studied using Dopa oxidation method; the contents of melanin were detected using chromatometry, and the expressions of P38 pathway protein were measured using immunoblotting.

**Results and discussion**

Loganin in the concentrations of 0.01 μm/L could inhibit the activity increase of tyrosinase in UVB-induced epidermal melanin unit and reduce the generation of melanin, and the mechanism might be realized by inhibiting the expressions of P38 protein, reducing signaling pathway and inhibiting the activity of tyrosinase. High concentrations of loganin could obviously inhibit P38MAPK pathway, therefore to inhibit the activity of tyrosinase and the generation of melanin.

**References:**


**Orthogonal optimization of the extraction process of Kangmai soft capsule.**

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**Abstract:** In order to optimize the optimal extraction process of Kangmai soft capsule, this experiment takes the content of astragaloside IV and the dry extract of the finished product as the investigation index, according to different extraction time, water addition (times), extraction times, alcohol. Under the conditions of sediment concentration and other conditions, the orthogonal test was designed for statistical evaluation. The test results showed that the best extraction process was to extract 2 times. For the first time, add 12 times the amount of water and add 1.5 times the amount of water. After soaking for 1 hour, extract 1 hour. Add 12 times the amount of water twice and extract for 1 hour. The water extraction process verification results showed that the average extraction rate was 21.82%, and the content of astragaloside IV was 0.3727 mg/g, indicating that
the extraction process is stable and reliable, and can be used to improve the extraction process of Kangmai soft capsule.

**Keywords:** Kangmai soft capsule; orthogonal test; extraction process; Scutellaria baicalin; ointment rate.

Kangmai soft capsule is prepared from the traditional Chinese medicines such as scallops, astragalus and honeysuckle. It is used clinically to treat arterial occlusive disease[1, 2]. In order to reduce costs and establish a scientific and reasonable extraction process, this experiment can use modern scientific and technological methods to carry out orthogonal experimental design, select the extraction time of the medicinal materials, the amount of water added (times), the number of extractions as the influencing factors, and The best extraction process is preferred by using a comprehensive weighted scoring method[3]

**1 Objective:** In order to obtain the best extraction process of Kangmai soft capsule and improve the extraction process, orthogonal test and water extraction process were carried out to verify the extraction process.

**2 Materials and methods**

**2.1 Instruments, equipment and pharmaceutical reagents**

Waters2695 high performance liquid chromatograph, Alltech 2000 evaporative light scattering detector, Reference substance of astragaloside A (China Institute of Pharmaceutical and Biological products, batch number:110781-200613), Traditional Chinese Medicine decoction pieces (Ha Yao Shi Tang traditional Chinese Medicine decoction Co., Ltd.). Ethanol (analytical purity), acetonitrile (chromatographic purity) were purchased from Tianjin Guangcheng Chemical Reagent Co., Ltd.

**2.2 investigation on water absorption of medicinal materials**

1/5.2 prescription medicinal materials were placed in beaker, 400 mL water was added to soak the medicinal materials to 70 min, 10 min filtration and water volume were measured every interval, and the water absorption was calculated.

**2.3 orthogonal experimental design**

After consulting the literature, it was found that the main factors affecting the extraction of medicinal materials were extraction times (1/2/3 times), water addition (8/10/12 times), extraction time (1/1.5/2 h), and combined with the production experience, each factor selected three levels to carry out the experiment, and the orthogonal test was used to optimize the water extraction process. The orthogonal test of $L_9(3^4)$ was designed. The prescription of 1/5.2 was selected, and a proper amount of volume water was added. After soaking for an hour, the corresponding amount of water was added, and the extraction was carried out in different times. After extraction, filter, collect each filtrate, combine filtrate and filter again, concentrate and dry.

**2.3.1 Determination of paste rate**

Nine groups of experiments were carried out with the method described in 2.3. The extract was filtered, condensed under pressure and dried in water bath. After drying at 80°C for 3 hour, it was cooled in the dryer for 0.5 hour, weighing was taken out and the ointment rate was calculated.

**2.3.2 determination of content**

Chromatographic column: DiamondRC18 column (250 mm×4.6 mm, 5 μm); Mobile phase: acetonitrile water(32:68); Flow rate: 1.0 mL/min; Column temperature: 30°C; Drift tube temperature: 105°C; Nitrogen flow rate: 2.5 mL/min.

**2.3.2.1 Preparation of reference substance and sample solution**

The solution with the concentration of 0.6 mg/mL was prepared by adding methanol to the 5 mL volume flask. The microporous filter membrane was used as the reference solution, and the microporous filter membrane 0.45 μm was used as the reference solution.

The 9 groups of dry ointment extracted under 2.3 items were crushed, and the crude powder was about 2 g, precise weighing, put into 50 mL conical bottle, adding 30mL methanol, ultrasonic for 30 minutes, filtering, residue and conical bottle plus methanol twice, each time 10 mL, filtration, combined filtrate, water bath drying, residue plus 10 mL micro-hot water to dissolve, water saturated n-Butyl alcohol extraction 4times, each time 20 mL, combined with n-Butyl alcohol solution, Then wash with n-butanol saturated ammonia test solution twice, 40 mL each time, discard
the lower ammonia test solution, evaporate the n-butanol solution in water bath, add methanol to dissolve, transfer to 5 mL capacity bottle, methanol supplement Foot to scale, shake well, use microporous filter membrane 0.45 μm to filter, as sample solution.

2.3.2.2 Preparation of Standard Curve

As above, the concentration of the prepared solution is respectively 0.2402 mg/mL, 0.3602 mg/mL, 0.4804 mg/mL, 0.6000 mg/mL, 0.7206 mg/mL. Each solution is injected with precision of 10 μL, as determined by the above-mentioned chromatographic conditions. The logarithm of astragaloside A was used as transverse coordinate and the logarithm of peak area as longitudinal coordinate for linear regression. The regression equation was \( Y = 1.440X + 4.406 \) \((R^2 = 0.999)\). The results showed that there was a good linear relationship between 2.4020 μg and 7.2060 μg.

2.4 Water extraction process verification

The prescription quantity of 1/5.2 prescription was 1/5.2 times of water was added for the first time, 1.5 times of water was added outside the water for the first time, 1 hour after soaking for 1 h, the filtrate was collected, the second time 12 times the amount of water was added for 1 hour, the filtrate was collected, the filtrate was combined with two times of filtrate, and the filtrate was concentrated and dried. According to the conditions of 2.3.1 and 2.3.2, the ointment rate and astragaloside A content were determined. The results showed that the average ointment rate was 21.82% and the content of astragaloside A was 0.3727 mg/g which indicated that the extraction process was stable and reliable.

3 Results and discussion:

The results of intuitionistic analysis show that the main order of each factor is water addition(B)>extraction times(A)>extraction time (C), optimal level combination is \( A_2B_1C_2 \). The results of variance analysis showed that factor A and factor B had significant influence on extraction. C factor was not significant factor, considering saving production time cost, so \( C_1 \). Finally, the optimum process combination was determined as \( A_2B_1C_1 \). The optimum extraction process of orthogonal test was as follows: adding 12 times of water for the first time, adding 1.5 times of water for the first time, soaking for 1 hour, extracting for 1 hour, adding 12 times of water for the second time, extracting for 1 hour. The results of water extraction showed that the average ointment rate was 21.82% and the content of astragaloside A was 0.3727 mg/g, which indicated that the extraction process was stable and reliable and could be used to improve the extraction process of Kangmai soft capsule.

4 References


Study on the correlation between intestinal flora and allergic asthma based on the theory of traditional chinese medicine of “the lung and large intestine unification”

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Abstract

In the theory of the viscera-state doctrine of the traditional Chinese medicine, the five internal organs have their own organs, and the lungs are closely related to the intestines. At the same time,
the lungs and large intestine belong to each other through meridians, and the lungs and large intestine belong to the meridian of Hand-TAI YIN and of Hand-YANG MING. These two meridians are closely related to each other, that is, "Lung and large intestines unification".

Allergic asthma belongs to the category of lung diseases of traditional Chinese medicine. Traditional Chinese medicine is "cough", "asthma", "asthma syndrome", "phlegm and retained fluid ", "blood syndrome" and so on. Allergic asthma is attributed to the pathological changes of lung. Lung disease and intestine will inevitably cause the imbalance of intestinal flora and intestinal injury, and the imbalance of intestinal flora will inevitably aggravate the clinical behave of allergic asthma of lung diseases. They are both closely related to each other.

The intestinal tract of the human body is a place where the micropopulation is densely distributed, and the intestinal microflora as an organ of the host plays an indispensable role in the maintenance of human health. However, more and more studies have shown that intestinal microbiota will also be involved in the formation of diseases. The changes in the composition and function of symbiotic microflora in the human body are closely related to various diseases and health status. Therefore, in our study, to investigate relationship between intestinal flora and Allergic asthma, and a role of intestinal flora in the regulation of traditional Chinese medicine in the intervention of asthma based on the theory of "Lung and large intestines unification". Give full play to the advantages of traditional Chinese medicine to provide more new research idea for Clinical and research of asthma disease as Intestinal microflora as intestinal microflora by modern method, and thus to further provide the evidence for the theory to research traditional Chinese medicine pathogenesis in the prevention and treatment of the disease.

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Strategies for characterization of triterpene saponins in leaves of acanthopanax sercticosus using mass spectrometry

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Abstract
In this study, the ultra-high performance liquid chromatography tandem electrospray quadrupole time-of-flight mass spectrometry (UPLC-ESI-QTOF) and ultra-high performance liquid chromatography tandem electrospray quadrupole time-of-flight mass spectrometry (UPLC-ESI-QTrap) mass spectrometry technology have been able to identify triterpene saponins in Acanthopanax sercticosus leaves. The purpose of this paper is to carry out more in-depth study on the substance basis of pharmacodynamics, to find and predict trace triterpenoid saponins in A. sercticosus leaves. Ultimately, 89 triterpene saponins and 14 sapogenins were fully characterized or tentatively identified, of which 33 compounds were potential new compound; 1 compound was unique malonyl-triterpenoid saponins. The development of effective chemical components of traditional Chinese medicine provides a favorable basis for its effectiveness, safety and control. The article could provide scientific basis for researching safety and effectivity of drugs.

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Key words: A. sercticosus leaves; saponins; UPLC-ESI-QTRAP; UPLC-ESI-QTOF

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Study on the components of flavonoids and their anti-oxidative effects from *Datura Metel* L.

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**Abstract:**

**Objective:** To rapidly identify and analyze flavonoids from *Datura metel* L. by high performance liquid chromatography-electrospray ionization-quadrupole-time of flight-mass spectrometry (UPLC-ESI-Q-TOF-MS); the anti-oxidation and anti-aging effects of this kind of body in vitro and in vivo were studied.

**Methods:** The characteristics of flavonoids were detected by UPLC under uv and mass spectrometry, and the data were processed by MS and Metabolynx methods; at the same time, the fruit fly biological model was used as the object of investigation, and the effects of different concentrations of flavonoids on the life-related behavioral indicators of Drosophila were determined. And the scavenging ability of DPPH free radicals was investigated.

**Results:** 14 chemical components in the flavonoids of Flos Lonicerae were initially identified, and the Metabolynx analysis of the common kaempferol core m/z287 was obtained. Compared with the ultraviolet absorption spectrum of the compound, the type and quantity of flavonoids can be clearly and intuitively distinguished; in vivo experiments with flavonoids showed that this component can prolong the lifespan of Drosophila, improve the ability of Drosophila to climb, and improve the ability of Drosophila to resist subacute oxidative damage, and the DPPH method showed high free radical scavenging ability.

**Conclusion:** UPLC-ESI- Q-TOF-MS method can quickly identify and analyze the flavonoids from *Datura metel* L., and provide ideas for the chemical composition characterization of the effective components of traditional Chinese medicine with the same mother nucleus; at the same time, it was verified that the flavonoids from *Datura metel* L. were the material basis for anti-oxidation effects of the plant.

**Key words:** *Datura metel* L.; Flavonoids; UPLC-ESI-Q-TOF-MS; Anti-oxidation

**Acknowledgement:** Heilongjiang Youth Science Fund Project (QC2013C085); Harbin Science and Technology Bureau Project (2013RFQXI070); Heilongjiang University Student Innovation and Entrepreneurship Training Program Project (201810228002)

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**Effects of *Oplopanax elatus* Nakai total saponins on sleep time and sleep phase in rats**

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**Abstract**

*Oplopanax elatus* *Naka*, a perennial medicinal plant of the genus *Panax* ginseng, is often harvested in the spring and is rooted in roots and rhizomes. Naturally distributed in Changbai Mountain, Jilin Province, the Far East of Russia and the mountains of northern Korea. *Oplopanax elatus* *Naka* is often used in the treatment of insomnia. In the preliminary study of this laboratory, it
has been determined that the main effective part of Oplopanax elatus Naka to improve sleep is total saponins, the optimal dose is 300mg/kg, and the optimal administration time is 7 days.

On this basis, rats were used as experimental experimental models to investigate the effects of Oplopanax elatus Nakai total saponin on the sleep time and sleep phase of rats. The experimental results show that the Oplopanax elatus Nakai total saponin can shorten the awakening time of experimental animals and prolong the total sleep time. By analyzing the brain electrical energy of rats before and after administration, it is proved that the effect of Oplopanax elatus Nakai total saponin on the total sleep time is mainly through extending the phase of NREMS.

Key words: Oplopanax elatus Nakai total saponin, Sleep time, Sleep phase

Objective
Based on the previous results, this study explored the effects of Oplopanax elatus Nakai total saponin on the sleep time and sleep phase of rats by tracing and analysis of rat cortical EEG, and further confirmed the effect of Oplopanax elatus Nakai total saponin on improving sleep.

Materials and methods
Put the rats that embedded by brain electricity and muscle electricity electrode in sleep cages, to restore its 10days. In the 11th day test EEG at9 a.m.First the rat head and neck brain electricity and muscle electricity by miniature socket and wire electrode connected to 16physiological signal recorder. The recorder parameters for low frequency wave cutoff frequency is 0.5Hz, high frequency filtering is 35Hz, instrument gain of 200, at the rate of 3per screen (30s).Then 24hours continuous test cortex EEG of experimental animals and electromyographic signal, this is for experimental animals of the cortical EEG before drug delivery.In 12days beginning, at 8:30 every morning the same group of experimental animals through lavage for Oplopanax elatus Nakai total saponins (300mg/kg), 7days in a row. Experimental animals in the last 30min after the treatment, in the same experiment method to test 24 hour cortex EEG and EMG, this for laboratory animals after the administration. Based on analysis of the data cortical brain electricity and muscle electricity of experimental animals before and after dosing to explain the effect of Oplopanax elatus Nakai total saponins of rats sleep time and sleep phase.

Results and discussion
(1) The influence of rats sleep time and awakening time caused by the Oplopanax elatus Nakai total saponin:

The experimental results show that the Oplopanax elatus Nakai total saponins can shorten the time of the awakening of experimental animals, extend the total sleep time, compared with before dosing has a very significant difference (P < 0.01).

(2) The influence of rats sleep phase caused by the Oplopanax elatus Nakai total saponin:

The influence of the experimental results show that the Oplopanax elatus Nakai total saponins can shorten the time of Wake up (Wake) of experimental animals, extend NREMS time, compared with before dosing has a very significant difference (P < 0.01). But has no significant effect of REMs time (P > 0.05).

(3) The influence of the proportion of different sleep phases of rats in 24 hours by Oplopanax elatus Nakai total saponins:

Compared with before dosing, Oplopanax elatus Nakai significantly reduce the proportion of awakening phase within 24 hours (p < 0.01), significantly increased the percentage of NREM phase (p < 0.01), no significant influence to the proportion of REM phase. Analyzed separately during 9:00 – 21:00, the data show that at this stage the Oplopanax elatus Nakai mainly increase the proportion of NREMS (P < 0.05), no significant influence on the Wake and REM (P > 0.05). Stab in the 21:00 - 9:00 during the next day, Oplopanax elatus Nakai were significantly reduced the proportion of awakening phase (p < 0.01), increased the proportion of NREM and REM phase (p < 0.05).

Through the analysis of the dosing rats before and after that Oplopanax elatus Nakai total saponins can significantly shorten the awakening time of rats, extend the total sleep time. The impact on the total sleep time is mainly by extending NREMS time phase.

References:
Study on the Effects of Acanthopanax Sinensis on 19:00 Drosophila Melanogaster Sleep Rhythm Changes under 24h Continuous Darkness

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Abstract

Acanthopanax senticosus is first seen in "Shen Nong's Materia Medica", listed as the top grade, which is the dry root and rhizome of acanthopanax senticosus a member of the five families and five genera plants. Acanthopanax acanthopanax has the effect of invigorating qi and invigorating qi. Previous experimental studies have found that acanthopanax senticosus decoction can improve the sleep state of insomnia Wistar rats through the dual effects of central nervous system excitation and inhibition[1,2], and through the study on wild Canton S strain drosophila melanogaster, it was found that the change of light intensity and the intervention of acanthopanax senticosus had an effect on the sleep time and sleep-wake rhythm of drosophila melanogaster in the 12/12h light-dark alternating environment[3,4].

Based on previous studies, the intervention effect of acanthopanax senticosus on the sleep rhythm changes of 7-day-old drosophila melanogaster induced by 24h continuous darkness was further studied with wild type CS is drosophila melanogaster as the object of observation with drosophila activity monitoring system (DAMS).

Keywords: Drosophila melanogaster, Acanthopanax, Neurotransmitter, RT-PCR

Objective

To investigate the effects of acanthopanax senticosus on the changes of sleep rhythm in 19:00 7day-old wild Canton S (CS) strain in drosophila melanogaster under 24h continuous darkness.

Materials and methods

7-day-old drosophila melanogaster as research objects, divided into blank group, model group, and model drug group. The model drug group was given the concentration of 0.25% acanthopanax senticosus, for four days in a row, take 19:00 as the research point, using enzyme-linked immunosorbent assay (ELISA) technology, selection of DA and 5-HT as examining index, investigate the effects of acanthopanax senticosus on 5-HT and DA levels in the brain of 7-day-old female drosophila melanogaster under 24h continuous darkness. Using RT-PCR technique, the genes per, tim, Obp99a, Sug, Hsc70-3 in the brain of drosophila melanogaster were used as the indexes, investigate the effects of acanthopanax senticosus on the expression of sleep-related genes in the brain of 7-day-old drosophila melanogaster at 19:00 under 24 hours of continuous darkness.

Results and discussion

1. 0.25% Acanthopanax senticosus administration for 4 days had no significant effect on the increase of 5-HT content in the brain of 7-day-old female drosophila melanogaster at 19:00 in 24 hours of continuous dark environment, but it could significantly increase the content of DA (*p<0.05).

2. Compared with the 19:00 brain gene expression levels of 7-day-old drosophila melanogaster in the 12/12h light and dark environment, the brain gene per was 7.32 times, tim was 3.99 times, hsc70-3 was 4 times, Obp99a was 3.81 times, and Sug was 16 times in the 7-day-old female drosophila melanogaster at 19:00 after 24 hours of continuous darkness. Give 0.25% of acanthopanax senticosus four days later, under the 24h continuous dark environment, the relative
expression levels of each gene in the brain of 7-day-old female drosophila melanogaster at 19:00 showed different degrees of decrease, compared with that under the 12/12h light-dark environment per fell to 2.2 times, tim fell to 0.29 times, Hsc70-3 fell to 0.35 times, Obp99a fell to 0.96 times, Sug fell to 0.54 times.

Acanthopanax senticosus improve drosophila melanogaster sleep-wake rhythm may be related to the drosophila brain neurotransmitters 5-HT and DA and per, tim, Obp99a genetic changes.

References

Fund source: doctor innovation fund of Heilongjiang University of Chinese Medicine(2015bs08)
enzymes\textsuperscript{[5]}. Few studies have been determined more than five probes simultaneously, and expensive acetonitrile was mostly used as mobile phase. Based on the references, a new method for simultaneous determination of five isozyme probes in rat plasma by HPLC was established to make the analysis faster, more accurate and economical.

**Objective**

To established a method for simultaneously determining the concentration of five probe drugs of CYP450 in rat plasma.

**Materials and methods**

Collection of plasma samples: SD rats were injected with mixed probe drug solution (5 mL·kg\(^{-1}\)) via tail vein. The blood was collected from the orbit at 5, 10, 15, 20, 30 minutes and 1, 2, 4, 8, 12, 24 hours after administration. The blood was centrifuged into the heparinized centrifugal tube at 3500 r·min\(^{-1}\) for 10 minutes. The upper plasma containing drugs was collected and stored at \(-20^\circ\)C for reserve.

Treatment of plasma samples: The plasma sample was centrifuged for 10 min with 2 mL chloroform, 3 min, 3500 r·min\(^{-1}\) and 50 μL 8 μg·mL\(^{-1}\) diazepam internal standard solution. The organic phase in the lower layer was dried with nitrogen. It was dissolved in 100 mL mobile phase and centrifuged for 10 min at 12000 r·min\(^{-1}\). The samples was injected for determination.

Chromatographic conditions: Topsil C18 (250 mm × 4.6 mm 5 μm, Yuexu Technology). Mobile phase: methanol-diammonium phosphate buffer (pH 3.4). Flow rate: 1.0 mL·min\(^{-1}\); detection wavelength: 230 nm; column temperature: 35°C; injection 10 μL.

**Results and discussion**

Cocktail probe drug method is the main method to investigate the effect of drugs on CYP450 isozyme activity. In view of the difference between the selected probe drug and the internal standard, it is of great significance to establish a rapid and economical method for simultaneous determination of probe drugs in plasma. In this study, caffeine, metoprolol, chlorzoxazone, midazolam and tolbutamide were selected as probe drugs for CYP1A2, CYP2D4, CYP2E1, CYP3A2 and CYP2C11 isoenzymes. A new HPLC condition was established for the simultaneous determination of CYP450 isoenzymes in rat plasma.

Methanol-diammonium hydrogen phosphate buffer (pH 3.4) was used to carry out gradient elution by effectively adjusting the proportion of mobile phase in different time periods. However, the method had good separation, precision, accuracy and stability also, which met the requirements of biological sample determination. It is more economical than the analysis method of acetonitrile in mobile phase in the literature. The new method is suitable for exploring the effects of drugs on the activities of various isoenzymes by cocktail method, which can evaluate drug safety and drug interaction effectively.

**References:**


Comparative study on traditional slice decoction and formula granule of gexiazhuyu decoction

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Abstract
The study compared the content and efficacy of safflower, angelica, Chuanxiong and Chishao in the decoction made by Gexiazhuyu Decoction formula granule and traditional Chinese slice decoction. Ferulic acid, hydroxysafflor yellow A and paeoniflorin were used as the evaluation index components. The content of active ingredients in the two preparation methods of GexiaZhuyu decoction was detected by high performance liquid chromatography. HE staining was used to investigate the preventive effect of traditional Chinese slice decoction and formula granules on liver fibrosis. The contents of safflower, angelica, chuanxiong and radix in the Gexiazhuyu decoction formula granule were slightly lower than those of traditional Chinese medicine, but the difference was not statistically significant (P>0.05). HE staining experiments showed that the traditional Chinese slice decoction and formula granule of Gexiazhuyu decoction have certain preventive effects on liver fibrosis. Conclusion: The analysis of active ingredient content and pharmacodynamic analysis showed that there is a scientific basis for the replacement of traditional Chinese slice decoction with Gexiazhuyu decoction formula granule, which is worthy of clinical application.

Keywords Gexiazhuyu decoction; Formulation granule; High performance liquid chromatography; Comparative study; HE staining

Chinese formula granule is a granule prepared by extracting the medicinal ingredients of the single-flavored Chinese medicinal material, and only needs to mix and brew different single-flavor granules when used,. Compared with traditional decoction, traditional Chinese formula granule has the advantages of stable quality, no boiling and convenient carrying, but its efficacy has been questioned by Chinese medicine experts because it lacks the process of mixing and boiling [1, 2, 3]. Therefore, this study was conducted to compare the content of active ingredients in the decoction made by Gexiazhuyu decoction formula granule and traditional Chinese slice decoction, and establish a rat model of liver fibrosis, The effects of the two on the prevention and treatment of liver fibrosis were investigated by HE staining,to explore whether there is a scientific basis for replacing traditional Chinese slice decoction with Gexiazhuyu Decoction formula granule .

Objective: comparative Study on the Content and Pharmacodynamics of Gexiazhuyu traditional slice decoction and and formula granule.

Materials and Method
Establish an analytical methodological study on the determination of hydroxysafflor yellow A, ferulic acid and paeoniflorin; weigh the appropriate amount of formula granule of Gexiazhuyu decoction(equivalent to the dosage of 5 tablets of decoction tablets),Formulated formula granule standard solution after dissolution; the prescription tablet is weighed and extracted, concentrated, and fixed to volumetric flask for standby; the test solution is determination according to high performance liquid chromatography «Chinese Pharmacopoeia» 2015 version; 20 male SD rats are selected. They were randomly divided into blank control group, liver fibrosis model group, traditional slice decoction group, formula granule decoction group, and normal control group were given normal saline (0.5mL/only,2 times/week); ig given saline (2.0mL/only, 1time/d), liver fibrosis model group: ip given pig serum (0.5mL/only, 2 times/week); ig given normal saline (2.0mL/only, 1/d), traditional slice decoction group: ip given pig serum (0.5mL/only, 2 times/week);
ig given the traditional decoction made by traditional Chinese slice (including crude drug 7.37g·kg⁻¹, 1/d), formula granule decoction group: ip given pig Serum (0.5mL/only, 2 times/week); ig given the Gexiazhuyu decoction made by formula granules (including crude drug 7.37g·kg⁻¹, 1 time/d), a total of 16 weeks, Rats were sacrificed after the experiment, Prepared liver tissue pathological section, Hematoxylin-Eosin (HE) staining was performed and placed under a 200-fold microscope for analysis.

**Discussion of results**

Hydrox safflower yellow pigment A regression equation: \( y=46273x-96610, \ R^2=0.9991 \), regression equation of ferulic acid: \( y=70502x+4177.8, \ R^2=0.9993 \), regression equation of paeoniflorin: \( y=5863.4x+6635.7, \ R^2 =0.9993 \), all have a good linear relationship, the precision, stability and repeatability of the instrument are in line with the methodological requirements. Analysis of content results: the content of hydroxysafflor yellow A in formula granules was 1.865±0.018, and the content of hydroxysafflor yellow A in traditional decoction was 1.8685±0.018, no significant difference; the content of ferulic acid in formula granule was 1.7901±0.019, the content of ferulic acid in traditional decoction was 1.5889±0.018, no significant difference; the content of paeoniflorin in formula granules was 1.5741±0.047, and the content of paeoniflorin in traditional decoction was 1.7962±0.045, no significant difference. The pathological examination results are shown in the figure.

Figure HE staining method to observe the effect of Qixia Zhuyu Decoction on liver fibrosis induced by pig serum (×200)

(a) blank control group (b) pig serum-induced liver fibrosis model group (c) traditional decoction group (d) formula ranule group

Histopathological examination showed that the hepatocyte morphology of the blank control group (a) was normal after 16 weeks. The hepatic cords were arranged radially around the circumference, and no hyperplasia or fibrosis were formed. Model group (b) Rat liver cells showed swelling, ballooning and other damage. Liver tissue showed obvious fibrous septa and collagen
deposition. In the traditional decoction group (c) and the formula granule group (d), the liver
damage such as cell enlargement and balloon-like change in the rats was lighter than that in the
model group (b), compared with the blank control group (a). The hepatic cord arrangement was
disordered but the degree of disorder was lighter than that of the model group (b), and there was
some collagen deposition, and no dispersion was found.

The experiment showed that there was no significant difference in the content of active
ingredients in the traditional Chinese slice decoction and formula granule, and they all had a certain
preventive effect on liver fibrosis caused by pig serum. There is a scientific basis for the replacement
of traditional Chinese slice decoction with Gexiazhuuyu decoction formula granule, which is worthy
of clinical application and provides a new idea for the prevention and treatment of liver fibrosis.

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Study on the Extraction Technology of Shenhuan Antipruritic Gel

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Abstract
Pediatric eczema is one of the common diseases of skin diseases, which seriously affects the
healthy growth of children. This topic selects the traditional Chinese medicine of Sophora
flavescens, Phellodendron chinense and Kochia scoparia, determines the best prescription ratio and
the best extraction process, and provides theoretical basis and guiding significance for the
development of new drugs. The mice ear auricle swelling experiment and the pruritus mouse
pruritus experiment were carried out to determine the proportion of Sophora flavescens,
Phellodendron and Kochia scoparia; the content of berberine hydrochloride was determined by UV
spectrophotometry; the extraction process was optimized by orthogonal experiment. Since there is
no significant difference in the experimental results of the extraction solvent selection, the water
extraction process is selected in consideration of the irritancy of the alcohol. Sophora flavescens,
Cork and Kochia scoparia (1:1:1) have the best effect, so that the optimal prescription ratio is 1:1:1.
The determined extraction method is simple and feasible, laying a foundation for subsequent
formulation molding experiments.

Key words: eczema, orthogonal test, ultraviolet spectrophotometry, berberine hydrochloride

Pediatric eczema, atopic dermatitis (AD), is a chronic, inflammatory, relapsing,
dermatological disease characterized by allergic inflammation of the skin\(^1\). Through a large
number of literatures and a large number of external prescriptions for eczema, Sophora flavescens,
Phellodendron chinense and Kochia scoparia have significant efficacy in treating eczema in
children and have a high frequency of use\(^2\).

Sophora flavescens has the effects of clearing heat and dampness, killing insects and diuresis.
Mostly used for phlegm, stagnation, pruritus, eczema, wet sores, itchy skin and other symptoms.
Cork, bitter cold, with detoxification healing, heat and dampness. Modern research shows that
Cortex contains berberine, cedane and other ingredients, which have astringent, anti-
inflammatory, antibacterial, anti-allergic effects, etc., and have good effects on various skin
wetness, sores and other symptoms. Kochia scoparia is cold, sweet and bitter, with the effect of clearing away heat and dampness, hurricane and itching[3]. Pharmacological studies have shown that the triterpenoid saponin contained in Kochia scoparia is its main active ingredient, which has anti-inflammatory, anti-allergic and anti-itching effects, and is mainly used for the treatment of dermatological diseases such as itching and eczema.

**Objective**

For the clinical treatment of patients with eczema, TCM external treatment has a long clinical foundation. Traditional Chinese medicine gel paste has the advantages of convenient application, small side effects and high curative effect. This topic selected the Chinese herbal medicines Kushen, Phellodendron, Kochia scoparia, and the extraction process of its active ingredients, providing a theoretical basis for the development of new drugs.

**Materials and methods**

Cork, Sophora flavescens, Kochia scoparia, xylene, dextran-40, 95% alcohol, Berberine hydrochloride reference substance, methanol, other reagents are of analytical grade. Mice (Kunming, male and female, weighing 18-22 g, provided by GLP Laboratory, Heilongjiang University of Traditional Chinese Medicine). Through the mouse ear swelling test and the pruritus test of dextran mice, the extraction solvent of Sophora flavescens, Phellodendron chinense and Kochia scoparia and its prescription ratio were determined. The content of berberine hydrochloride was determined by UV spectrophotometry. The extraction process was optimized by orthogonal test.

**Results and discussion**

The extracts were obtained by alcohol extraction and water extraction by Sophora flavescens, Phellodendron chinense and Kochia scoparia (1:1:1), and the extracts were subjected to xylene-induced ear swelling test and dextran-induced itch in mice. The extraction of solvent from water and alcohol in the prescription did not significantly differ in the experimental results. Considering the application of this experiment to infant skin, alcohol irritancy and cost performance, the water extraction scheme was finally adopted. The three drugs with different prescription ratios (1:1:1, 1:2:1, 2:1:1) were subjected to water extraction under the same conditions, and then the obtained extract was subjected to xylene-induced mouse ear swelling test. And dextran induced mice itch test. The experimental results of mouse xanthone swelling showed that the anti-inflammatory effect of the prescription ratio of 1:1:1 was the best (inhibition rate was 46.73%), and the itch effect of dextran showed that the prescription ratio of 1:2:1 was the best. The inhibition rate was 40.74%, the itching time was middle (the total duration of itching was 19±2.87), and the prescription time ratio of 1:1:1 was the shortest (the total duration of itching was 15±3.2), and the antipruritic effect was moderate (inhibition). The rate was 37.03%). In summary, the matrine, cork and Kochia scoparia with a prescription ratio of 1:1:1 have good anti-inflammatory and antipruritic effects. Through the orthogonal experiment, the extraction rate and total alkali content of the extract were used as indicators, and the production cost was considered. The optimal extraction process was established, the extraction time was 2h, the solvent water dosage was 8 times, and the total alkali content was established. It is 3.527%. The optimal ratio of the obtained prescription is extracted by the optimal extraction process, and the theoretical basis for preparing the extracted concentrate to prepare a convenient and efficient external preparation for traditional Chinese medicine is provided. This topic selected the Chinese herbal medicines Kushen, Phellodendron, Kochia scoparia, and the extraction process of its active ingredients, providing experimental basis for the preparation of gelling agents.

**References:**


The application of classical prescription in nephropathy

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Abstract  
The classical prescription faction has been an important faction in the field of traditional 
Chinese medicine since ancient times. the exact curative effect deserves attention and further 
research. Through the analysis of classical prescriptions in 《Golden Chamber》 and 《Typhoid 
Fever》, the clinical efficacy of classical prescriptions in kidney diseases was explored, and the 
clinical significance of classical prescriptions in the treatment of kidney diseases was summarized.  
Key words: The classical prescription; Traditional Chinese medicine; Kidney disease

Modern medicine believes that immune injury and renal blood flow disorder are two major pathogenesis. Starting from adjusting immune function and blood circulation of kidney, blood stasis runs through the occurrence and development of chronic nephritis. In the treatment, strengthening spleen and kidney, invigorating qi and activating blood circulation are the main factors. Blood stasis is often found in the stage of persistent disease, nephrotic syndrome, chronic renal failure and secondary nephropathy[1]. Therefore, TCM syndrome differentiation is based on deficiency of spleen and kidney, with dampness and heat mixed, blood stasis internal obstruction and exogenous pathogens. "Long illness into collaterals", "long illness will be stasis", "blood stasis obstructs kidney collaterals", essence cannot flow smoothly, obstruction and overflow, fine discharge also forms proteinuria. Clinical flexible use of classical prescriptions in the treatment of chronic nephritis common manifestations of proteinuria, hematuria, edema, hypertension and other symptoms to distinguish syndrome types, analyze the nature of pathogenesis, flexible application of classical prescriptions for specific circumstances[2][3].

Objective  
Classical prescriptions can study their main treatment by prescription testing and drug 
testing, and their efficacy can withstand repetition; the efficacy of classical prescriptions: the 
curative effect is like bows and arrows with great urgency, one aim at the target, one point lost, and 
thousands of miles fallacious; the diagnosis and treatment system of classical prescriptions has a 
complete and unique clinical thinking mode, which deserves attention and in-depth study and 
exploration. To explore the clinical effect of classical prescription in kidney diseases.

Materials and methods  
By searching literature and collecting classical prescriptions mainly from 《Golden 
Chamber》 and 《Typhoid Fever》 we can apply them to nephropathy treatment. We summarize 
and compare the development of classical prescriptions, drug composition, efficacy, compatibility 
characteristics, modern clinical application reports and pharmacological research.

Results and discussion  
Classical prescriptions such as Yuebi Decoction, Yuebi add zhu Decoction, Zhenwu 
Decoction, Shipi Yin, Shenqi Pill, Cheng's Bixie Fenqing Decoction, Shenqi Dihuang Decoction, 
Chunze Decoction, Suoquan Pill, Huan Shaodan, Bazheng San, Shiwei San, Xiaoji Yinzi, Daochi 
San, Fangji Huangqi Decoction, Fangji Fuling Decoction, Wupi Yin, Wuling San, Shuzao Yinzi, 
Mahuang LianQiao Chixiaodou Decoction, Sangpiaoxiao powder, Youguiyin, Yulin Zhu, Jingyue 
Zanyu pill, Wuzi Yanzong pill, Sancai Fengsuidan, etc.In the clinical treatment of chronic
glomerulonephritis, nephrotic syndrome, IgA nephropathy, renal insufficiency, polycystic kidney, concealed glomerulonephritis, diabetic nephropathy, allergic purpura nephritis, urinary tract infection, chronic pyelonephritis and so on, the exact clinical effect has been achieved\(^4\). To explore and summarize the original intention of the ancient cube, starting with the new understanding of the pathogenesis of new diseases and new syndromes, seize the main crux, innovate some treatment methods on the premise of understanding the essence of the classics and insisting on the thinking of the classics, so that the prescriptions keep pace with the times, and the classics can achieve exact curative effect in the treatment of kidney diseases.

**References**


**Traditional Chinese medicine treatment of renal anemia agent**

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**Abstract:** By referring to ancient books and literatures and the treatment schemes of renal anemia by modern scholars, the etiology and pathogenesis of renal anemia are analyzed, and the effective formulas and formulas are screened, so as to provide new ideas and new schemes for clinical treatment.

**Key words:** Renal- anemia; traditional Chinese medicine treatment;

Renal anemia is widely exists in patients with chronic kidney disease (CKD), incidence of a disease is higher, the serious influence the survival rate of patients with chronic renal insufficiency and quality of life. TCM literature research shows that TCM in the treatment of chronic renal failure, at the same time has good curative effect in improving renal anemia. In recent years, according to the statistics of anemia status of domestic renal out-patients and inpatients with chronic kidney disease (CKD), the incidence of renal anemia gradually increases with the decline of renal function, and the prevalence of anemia in dialysis patients is as high as 98.2%\(^1\). Modern medicine thinks that adds recombinant-human -erythropoietin (rHuEPO) are exact and effective drug in the treatment of the disease \(^2\). However, a large number of studies have shown that long-term application of rHuEPO produces adverse reactions such as hyperpotassiumemia, hypertension, epilepsy and access thrombosis \(^3\). While traditional Chinese medicine has great advantages in the treatment of anemia, the application of traditional Chinese medicine combined with rHu EPO in enhancing the curative effect and reducing the toxic and side effects, has a positive effect, now the etiology, pathogenesis and treatment of renal anemia of traditional Chinese medicine is summarized as follows.

1. *Etiology and pathogenesis:*

In TCM, there is no such concept as "kidney anemia". Most scholars believe that kidney anemia can be classified as "deficiency of blood" and "deficiency of blood", TCM believes that the production of blood is related to the five organs and six organs, which are absorbed in the spleen,
harmonized in the liver, promoted in the heart, and the lungs towards the hundreds of arteries, which support the kidney, especially the spleen and kidney two organs are closely related.

《Linshu》: "in the coke to take juice, change to red, is that blood." The effect of middle jiao spleen and stomach on blood production was emphasized. "Blood is the essence of water and grain". Most modern scholars inherit the etiology and pathogenesis of this disease from their predecessors and play a role in it. Liu yuquin [4] believed that renal anemia was mainly caused by the loss of the lower jiao kidney and the dysfunction of the five internal organs, especially the spleen and stomach, the obstruction of the production of qi and blood and the stop of turbidity and evil, and the consumption of injury of qi and blood. Xie huifen [5] believed that the fundamental cause of renal anemia was long illness and kidney, which led to the loss of both Yin and Yang of the kidney, and then affected the deficiency of kidney essence, depletion of essence and qi, bone marrow without filling and nourishing, resulting in bone marrow emptiness, and blood without transforming and growing, just as the theory of all diseases says: "kidney conceals essence, essence and blood". Ye jinghua [6] noted that renal anemia, in addition to deficiency of spleen and kidney, has a side of evil, which is a state of opposite deficiency and deficiency. The root of renal anemia is deficiency of spleen and kidney. Due to the loss of the spleen and stomach in the transfer of coke, the loss of the opening and closing of the kidney due to the loss of the department of evaporation and excretion of water, water and become wet turbidness, wet turbidness has become Blood stasis is caused by the suppression of qi and the unfavorable vein of blood circulation Therefore, wet blood stasis can be widely existed in the course of this kind of patients. Sun wei believes that the evil of dampness and heat is still an important factor that cannot be ignored in the patients with renal anemia, and the application of qingli, activating collaterals and benefiting the kidney method can achieve satisfactory curative effect in the treatment of renal anemia patients with kidney deficiency and dampness and heat stasis [7].

2. Dialectical treatment:

According to its pathogenesis, it can be used to treat and enrich the spleen and kidney, which is the fundamental rule for the treatment of renal anemia, or to strengthen the spleen and kidney, or to nourish qi and blood, but it should take into account the turbidity and blood stasis, and avoid the "false and honest" warning. For example, wu jin-yu takes the same treatment of specimens as the treatment principle, and the main treatment method is to replenish spleen and kidney, and remove blood stasis with clearing damp. Astragalus membranaceus, tangerine peel and pinellia ternata are the main drugs, which are mainly used to make up for deficiency, and can significantly improve the symptoms of patients with renal anemia [8]. Liu cankang put forward to the treatment of this disease when the time to take care of the spleen and stomach, in regulating and reinforcing the focus of the spleen and stomach, one is to pay attention to the spleen and stomach qi; Second, pay attention to the mediating medium coke engine; Three is to be careful with water attack by and break blood search tick drugs. In the course of treatment, people can take liuwei dihuang pill or zuogui pill to gradually recover the results [9]. Li weimin, on the other hand, USES the essence filling method, which is essential for kidney and spleen improvement, especially for essence filling and spleen strengthening. Besides, sijunzi decoction, shenqi dihuang decoction, siwu decoction and spleen-regulating decoction, etc., which are used to supplement qi and blood, appropriate drugs for kidney essence filling and kidney qi absorption can often achieve good clinical effect [10].

Results and discussion: In recent years, TCM has made great progress in the treatment of renal anemia. A comprehensive review of the experience of various doctors has great advantages in improving the symptoms of patients with renal anemia, reducing the side effects of erythropoietin and improving the quality of life of patients, and can improve the theory of viscera qi and blood in TCM, providing new ideas for clinical practice.

References:
Effects of PAMD on Pathological Morphology, Apoptosis and Cell Cycle of BxPC-3 Cells

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Abstract
Pancreatic cancer is a kind of malignant tumor, which is more insidious and difficult to be detected in its early stage. It is one of the four major malignant tumors in the world, which is a disease of digestive tract system. Pancreatic cancer progresses rapidly and has a very poor prognosis. Due to the severity of pancreatic cancer, there are more and more researches on pancreatic cancer. With the development of traditional Chinese medicine in China in recent years, more and more doctors want to relieve and treat pancreatic cancer through traditional Chinese medicine. PAMD is a mixture of various fat-soluble alkaloids extracted from the Chinese traditional medicine beanberry root. In addition to eliminating some basic pharmacological effects, PAMD has been reported to have anti-tumor effects in recent years.

Keywords: PAMD; pancreatic cancer; BxPC-3; Apoptosis; anti-proliferation

Objective
To study the proliferation inhibition of human pancreatic cancer cell line BxPC-3 under the intervention of Dauricine phenolic base (PAMD), and to observe the effect of PAMD on the pathomorphology, apoptosis and cell cycle of BxPC-3 cells.

Materials and methods
BxPC-3 cells were cultured and the following experiments were carried out: 1. The growth cycle of BxPC-3 cells in each group was determined by trypan blue staining, and the growth curve was drawn according to the growth cycle; At the same time, the proliferation of BxPC-3 cells in each group was measured by MTT assay; 2. Pathological changes of BxPC-3 cells were observed by transmission electron microscopy (TEM); and then BxP was detected by flow cytometry (FCM). Cell cycle and apoptosis of C-3 cells.
Results and discussion
1. According to trypan blue staining test, the growth of cells in each group was slower; MTT test showed that the inhibition rate of cell proliferation in each group was the highest in PAMD high-dose group, followed by 5-FU group, and finally PAMD low-dose group. 2. Transmission electron microscopy showed that compared with the control group, the cell nuclei of each drug group were pyknosis and apoptotic bodies were formed. Flow cytometry showed that compared with the control group, the cells of each drug group were stagnated in G1 phase of cell cycle, and the apoptotic rate of cells in each drug group was increased, the difference was statistically significant (P < 0.05 or P < 0.01).

PAMD blocked BxPC-3 cells in G1 phase, then blocked their replication and proliferation, promoted cell apoptosis, and affected the ultrastructure of tumor cells. BxPC-3 showed inhibition of proliferation under the action of PAMD.

References:

Advances in the pharmacological effects of total saponins of P. sylvestris on hyperuricemia

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Abstract
The main components of Dioscoreae nipponicae Rhizoma are steroidal saponins, which have some inhibitive effects on humoral and cellular immunity. Hyperuricemia is mainly caused by decreased uric acid excretion and dysfunction of sputum metabolism, which leads to a significant increase in uric acid levels in the blood of patients. In recent years, many experimental studies on the pharmacological effects of total saponins of Dioscorea zingiberensis have confirmed its therapeutic effect on hyperuricemia. It was found to regulate the synthesis and excretion of uric acid. The article reviews its latest research progress.

Keywords: hyperuricemia; Pangolin total saponins; research progress.

The dried rhizome of Dioscorea nipponi-ca Makino is a sweet and bitter, warm, and liver, kidney, and lung. Its efficacy is hurricane dehumidification, Shujintongluo, promoting blood circulation and relieving pain, relieving cough and relieving asthma. Clinically used for rheumatism, rickets, falls, swollen waist, joint swelling, pain, numbness, cough, asthma, etc.[1]. Zhang Yuanyuan et al.[2] used silica gel column chromatography and preparative liquid chromatography to separate and identify steroidal saponins from Chuanlong Dioscorea opposita Thunb, mainly for the extraction of n-butanol from 95% ethanol extract of medicinal materials. Finally, five steroidal saponins were isolated and identified as saponins, dioscin, pseudo-pyrazine, methyl fibrin, and dioscin.

Hyperuricemia can be diagnosed in normal sputum diets and on the same day when the fasting serum uric acid levels are more than 420 μmol/L (7 mg/dL) for men and 357 μmol/L (6 mg/dL) for
women. Hyperuricemia (HUA). HUA is a disease in which blood uric acid is increased due to a decrease in sputum metabolism or decreased uric acid excretion in the body.

**Objective:** the pathogenesis of hyperuricemia is mainly related to excessive production of uric acid and insufficient uric acid excretion. It can be divided into two major categories: primary and secondar. Based on various pharmacological effects of Chuanshanlong. By consulting a large amount of literature, This article describes the mechanism of total saponins in the treatment of hyperuricemia.

**Materials and methods**

By consulting a large amount of literature, Zhou Qi et al [3] studied the hypouric acid effect of total saponins of Chuanshanlong on uric acid enzyme inhibitor oltipraz potassium induced hyperuricemia in Kunming mice. Sixty male Kunming mice were randomly divided into 6 groups. They were normal group, model group, allopurinol group (40mg/kg) and high, medium and low dose groups of total saponins \(600, 300, 60mg/kg\), 10 per group. The high, medium and low dose groups of total saponins of P. sylvestris were continuously administered intragastrically 6 days before modeling. 1 time / d. At the same time, the normal group was administered with 0.9% sodium chloride solution. Allopurinol group was administered by intragastric administration for 1 day before model establishment. On the 7th day, each group was given 1 hour after gavage, Intraperitoneal injection of oltipraz potassium 300mg/kg for modeling. Blood was taken through the eyeball 1 h after the induction of the model, Determination of mouse SUA, XOD, ADA levels.

**Results and discussion**

The results indicate that xanthine oxidase and adenosine deaminase activities are reduced, and these two enzymes are key enzymes involved in uric acid formation [4, 5], so the total saponins of P. sylvestris inhibit uric acid production by reducing the activity of these two enzymes. At the same time, the expression of the anion transporter 1 of the important transporter kidney tissue secreted by uric acid was reversed, so as to promote the excretion of uric acid and achieve the purpose of reducing uric acid.

Chuanshanlong is a genus of Dioscorea, with rich nutritional value, homologous medicine and food, and abundant resources. It has been cultivated and applied for more than 4000 years in China, and has high medicinal and health care value, and is well received by the general public. The side effects of wearing a mountain dragon are small, the target is many, and there are many ways. The clinical application prospect of the total saponin of the mountain saponin is broad. n recent years, Domestic and foreign medical scholars use modern pharmacology to study the rat synovium induced by Chuanshanlong, analgesic, hypoglycemic, anti-inflammatory, uric acid-lowering, anti-tumor, anti-hyperlipidemia, anti-oxidation, liver-protecting IL-17 and TNF-α Cell line RSC-364NF-κB. Throughout the study of various pharmacodynamic effects, The effect of uric acid-lowering on the mountain squid has become a hot topic in the study of anti-hyperuricemia.

**References**

Establishment and evaluation of caco-2 cell model

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Abstract

Objective: To establish a human colon cancer cell line caco-2 monolayer cell model and evaluate it.

Methods: The cells were seeded at 2 x 10⁶ cells/ml, 500 μl was inoculated into the top of a 12-well transwell plate, and 1.5 ml of the culture solution was added to the bottom. After the inoculation, change the liquid once a day, the top 0.5ml, the bottom end 1.5ml, after 1 week, the top of the mouth changed every day, the bottom end changed the liquid every other day until 21d[1]. The resistance value of the Caco-2 cell monolayer was measured. The caco-2 cell model was evaluated by measuring the TREE value of the Caco-2 monolayer cell membrane, the alkaline phosphatase activity, and the positive control for propranolol absorption. The culture medium on the AP and BL sides on the 1st, 3rd, 5th, 7th, 14th and 21st day was taken to measure the alkaline phosphatase activity. Hank's solution rinses the cells twice, aspirating the top and bottom hank's solution as a blank in the liquid phase, adding 0.5 ml of propranolol hydrochloride to the top, and adding 1.5 ml of hank's solution (top 0.5 ml) to the bottom in a CO2 incubator. The samples were taken at 30, 60, 90, 120, 150, 180 and paralleled with 3 wells. The bottom end was sampled at 1 ml (top 0.4 ml) for UPLC analysis.

Result: On the 21st day, the TREE value of caco-2 cells was 594±18.46, which was greater than 500 Ω·cm. The AP side was 8 times more capable of hydrolyzing ALP than the BL side. Alkaline phosphatase was mostly concentrated on the brush border side, Caco -2 Cell differentiation is complete. The Papp of the positive drug propranolol was 2.06 x 10⁻⁵ cm/s.

Conclusion: The Caco-2 cell monolayer model meets the requirements of all the indicators. The model is successfully established and can be used for in vitro absorption studies of traditional Chinese medicine.

Key words: Caco-2 cells, in vitro absorption, model establishment

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