Разработанная нами методика проектного обучения была использована нами при обучении медицинской информатике на 2 и 5 курсах Амурской государственной медицинской академии с осуществлением запланированных результатов, что позволяет сделать вывод о её практическом значении.

Литература

1.Алексеев Н.А. Личностно-ориентированное обучение: вопросы теории и практики / Н.А. Алексеев. Тюмень: ТГУ, 2017. 215 с.
2.Беспалько В.П. Слагаемые педагогической технологии / В.П. Беспалько. М.: Педагогика, 1989. 190 с.
3.Груздев В.В. «Метод проектов» как частный случай интегративной технологии обучения / В.В. Груздев //Директор школы. 2015. №6.
4.Гузеев В.В. Инновационные идеи в современном образовании / В.В. Гузеев // Школьные технологии. 2017. №1. С. 3-10.

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REDOX-DEPENDENT PROCESSES IN BLOOD PLASMA OF PATIENTS WITH OVARY CANCER AFTER POLYCHEMOTHERAPY BY CAP SCHEME AND ITS CORRECTION

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Summary. The dynamics of the redox-dependent processes in blood plasma of the patients with ovary cancer of the IIIrd C stage by FIGO after polychemotherapy according to the CAP scheme is considered. In the blood plasma there were estimated the lipid peroxidation parameters: lipid hydroperoxides, diene conjugates, malonic dialdehyde and the activity of the components of antioxidant system. After the polychemotherapy there were detected higher levels of the products of the lipid peroxidation in the blood plasma of the patients. The introduction of reamberin patients contributed to a significant decrease in plasma lipid hydroperoxides on 26%, diene conjugates – by 16%, malonic dialdehyde – on 30% compared with patients in the control group. While analyzing the effect of the succinate containing 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 67%, 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.

Key words: reamberin, ovary cancer, blood plasma, lipid peroxidation, products of peroxidation (lipid hydroperoxides, diene conjugates, malonic dialdehyde), antioxidant system, patients.

It is known that redox-dependent processes include the generation of reactive oxygen species, lipid peroxidation and antioxidant protection. It is proved that the causes of increasing the intensity of free radical processes may be different, but the changes at the molecular level are of the same type and lead to the formation of oxidative stress. Oxidative stress is a pathogenetic link of cancer. Ovarian cancer is an urgent problem of modern oncogynecology. The development of pathogenetic and justified methods of early diagnosis and treatment of ovarian cancer remains a priority.

Materials and methods. The patients were divided into 2 groups: 30 patients (control group) received only polychemotherapy; 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 rate 40-80 drops/min (2-4 ml/min) 1 times a day. 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 blood plasma of patients. The results obtained were subjected to statistical analysis with calculation of parametric criteria Student.

After the polychemotherapy there were detected higher levels of the products of the lipid peroxidation in the blood plasma of the patients. The introduction of reamberin patients contributed to a significant decrease in plasma lipid hydroperoxides on 26%, diene conjugates – by 16%, malonic dialdehyde – on 30% compared with patients in the control group. While analyzing the effect of the succinate containing 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 67%, 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

Dorovskikh V.A., Simonova N.V., Simonova I.V., Shtarberg M.A. Application of phytopreparations for the correction of processes of lipid peroxidation of biomembranes induced by ultraviolet irradiation. Far Eastern Medical Journal 2011; 1:77–79 (in russian).

Dorovskikh V.A., Simonova N.V., Tonkonogova M.S., Pnyhtin O. P., Simonova N. P. Comparative evaluation phytoadaptogens under oxidative stress. Bulletin physiology and pathology of respiration 2015; 55:95–100 (in russian).

Dorovskikh V.A., Tseluyko S.S., Simonova N.V., Anokhina R.A. In the world of antioxidants. Blagoveshchensk, 2012 (in russian).

Krasavina N.P., Tseluyko S.S., Dorovskikh V.A. Mast cells of respiratory organs and prospects of their study (literature review). Bulletin physiology and pathology of respiration 2004; 19:74–79 (in russian).

Landyshev Ju.S., Dorovskikh V.A., Chaplenko T.N. Drug Allergy. St-Petersburg, 2010 (in russian).

Landyshev Ju.S., Dorovskikh V.A., Tseluyko S.S., Lazutkina E.L., Tkacheva S.I., Chaplenko T.N. Bronchial asthma. Blagoveshchensk, 2010 (in russian).

Pereverzev D. I., Dorovskikh V. A., Simonova I.V., Shtarberg M.A. Efficacy of cytoflavin in the correction of processes of lipid peroxidation in plasma of patients with acute myocardial infarction. Cardiology and cardiovascular surgery 2016; 9(5):42–45 (in russian).

Simonov V.A., Simonova N.V. Method of correcting lipid peroxidation in animal white muscle disease. Krasnoyarsk, 2006 (in russian).

Simonova I.V., Dorovskikh V.A., Simonova N.V., Shtarberg M.A. Non-specific preventive measures against respiratory diseases of nursery age children. Far Eastern Medical Journal 2009; 3:56–58 (in russian).

Simonova N.V., Dorovskikh V.A., Anokhina R.A. Medicinal plants of the Amur region. Blagoveshchensk; 2016 (in russian).

Simonova N.V. Infusion of medicinal plants and oxidative stress in the ultraviolet irradiation. Bulletin of Saratov state agrarian University. N. I. Vavilov 2011; 8:23-26 (in russian).

Simonova N.V. Phytopreparations in the correction of lipid peroxidation of membranes induced by ultraviolet irradiation: abstract of thesis…doctor of biological sciences. Blagoveshchensk; 2012 (in russian).

Aldini G., Yeum Kyung-Jim, Niki E., Russel R. Biomarkers for antioxidant defense and oxidative damage. Medical, 2011.Pratt D.A., Tallman K.A., Porter N.A. Free radical oxidation of polyunsaturated lipids: New mechanistic insights and the development of peroxyl radical clocks. Acc. Chem. Res. 2011; 44(6):458–467.

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INFLUENCE OF COMPLEX CHEMICAL POLLUTION OF ATMOSPHERIC AIR ON THE FORMATION DISEASES RESPIRATORY SYSTEM OF THE POPULATION OF THE AMUR REGION

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Abstract The quality of atmospheric air in modern cities in many ways determines the health status of the population and is the leading etiological factor in the development of diseases, primarily children, the elderly, and people with chronic respiratory and cardiovascular diseases. We analyzed air quality for the period 2007-2017, incidence rates of respiratory system and calculated the hazard index.

Key words: air pollution, complex of air environment factors, respiratory system.

According to the data of the Main Geophysical Observatory named after A.I. Voyeikov and the Federal Service for Hydrometeorology and Environmental Monitoring in the city of Blagoveshchensk in the Amur Region has been a priority for a number of years in the priority list of Russian cities with the highest level of atmospheric pollution. The list includes cities with a very high level of air pollution, for which the integrated index of atmospheric pollution (IZA) is equal to or higher than 14. IZA takes into account 5 pollutants from the full list of controlled in the city, contributing the most to the level of pollution (nitrogen dioxide, benzpyrene, ammonia, suspended solids, formaldehyde). The value of IZA is calculated from the values of average annual concentrations. The indicator characterizes the level of chronic, long-term air pollution.

Objective Assessment of the importance of air pollution for some health indicators of the Amur Region, the incidence of children as one of the most sensitive populations, to improve the detection of pathology, improve the quality of diagnosis and treatment, and the development of preventive measures.

Materials and methods of research A complex of social and hygienic methods will be used in the work:

- full-scale studies of atmospheric air. Air sampling was carried out for the period 2007-2017 in accordance with RD 52.04.186-89 "Guidelines for the control of atmospheric pollution" and SanNaR 2.1.6.1032-01 «Hygienic requirements for ensuring the quality of atmospheric air in populated areas» continuously throughout the day. The evaluation of the results is carried out in accordance with the requirements of GOST 17.2.3.01-86 «Conservation of nature. Atmosphere. Rules for air quality control of settlements», SanNaR 2.1.6.1032-01 «Hygienic requirements for ensuring the quality of atmospheric air in populated areas», HN 2.1.6.1338-03 «Maximum permissible concentrations of pollutants in the air in populated areas», HN 2.1.6.2309-07 «Approximate safe exposure levels of pollutants in the air of populated areas».

- assessment of the spread of diseases according to the population's circulation according to the official form of statistical reporting № 12 (MCD-10) for the period 2007-2017. The method of regression analysis is planned to establish the relationship between environmental factors and the level of spread of diseases.

- a set of statistical analysis methods: paired and multidimensional correlation analysis by Pearson and Spearman, multidimensional linear regression analysis. Statistical processing of the results of the research will be carried out using application packages Microsoft Office Excel 2007 and Statistica 6.0 for Windows.