

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 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.

Key words: reamberin, traumatic brain injury, lipid peroxidation, lipid hydroperoxides, diene conjugates, malonic dialdehyde, antioxidant system, 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.

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.

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% ($p < 0.01$), 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.

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USE OF NATURE ADAPTOGENES FOR BIO-REGULATION OF ORGANISM IN CONDITIONS OF LOW AND HIGH TEMPERATURES

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Abstracts They use digidroverzitin and pants of dabbed deer for adaptation of warm-blooded organism towards of pathogenic influence of cold and heat. They following mixture of substances possesses huge antioxidant activity and is safe according to the criteria of ecological and hygienic concept of human nutrition.

Key words

Pants, digidroverzitin, adap-

togenes, bioregulation.

Appliance of human and animal organism to environmental influences of temperature is one of the most meaningful problem in science and practice. It is a well-known fact that boost of human adaptation to temperature factors of influence on organism is possible with pharmacological means that are often chemical substances; they are not deprived of side effects and bear ecological burden on organism that complicates their widespread use.

One of the newest prospective directions in regulation of metabolic processes in influence of low and high temperatures is miscellaneous substances with use of adaptogenic products of animal and plant-packed origin scientifically stipulated use in human nutrition. Whereby the most important role can be given to pants of dappled deer and digidrokverzitin.

System of test evaluation of use of these products as bioregulators of individual adaptation of organism in conditions of longtime freeze and heat on experimental model (lab animals) was worked out and used. **Materials and methods** Research on exclusion of toxicity of foods from pants were conducted in accordance with generally accepted methodical approaches (I.V. Sanozkii and coauthors 1979). For study of antioxidant features of foods from pants and digidrokverzitin, they selected biochemical methods letting evaluate the participation of researched foods in the processes of peroxidized lipid oxidation (POL). Physical working capacity was identified according to the swimming time, working capacity of experimental rats on tertiary. The study of adaptive reactions of animals towards cold were conducted with the use of model of long cold influence with the use of climatic cell of the firm "Fentron" – GDR. The study of adaptive reactions of animals towards heat were conducted with the use of model of long heat influence with the use of climatic cell of the firm "Binder GmbH" (Germany). The researched elements of pants and digidrokverzitin are safe according to the criteria of common-toxic influence. They respond to the demands of safety according to ecological and hygienic concept of human nutrition. The following foods from pants and digidrokverzitin are increasing the stability of animals towards fatigue in conditions of adaptation to coldness and heat. They are effective as antioxidant means for prevention of pathogenic influence of low and high temperatures in the periods of long freeze and heat. That is adaptogenic elements from pants and digidrokverzitin are recommended for use in human nutrition for correction of cold and heat stress on organism.

Complex research identified and proved that scrutinized natural adaptogenes contain complex of amino acids, as well as flavonoid combinations, whereby they are safe according to criteria of ecological and hygienic concept of human nutrition. The following adaptogenes in the experiments of *In vivo* possess huge antioxidant activity as well as dosages 150-300 milligram on kilogram during daily consumption increasingly heighten resistance of lab animals towards fatigue in conditions of temperature stress. Pants of dappled deer and digidrokverzitin normalize morphofunctional changes in trachea, liver and myocard of lab animals of heat and cold influence on organism. That is high effectiveness of usage of mixture of nature adaptogenic products of pants and digidrokverzitin for prophylaxis of pathogenic influence of heat and cold on organism is identified.

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MINERAL BONE DENSITY IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Abstract Chronic obstructive pulmonary disease (COPD) is characterized by a progressive course with an unfavorable prognosis. To date, COPD affects about 10% of the population at the age of 40 (11.8% for men and 8.5% for women). In recent years, much attention has been paid to the study of systemic effects in COPD and the manifestation of concomitant pathology [3], among which the violation of bone mineral density (BMD) is of particular importance. In patients with COPD, the IPC state was studied by many authors. In particular, the study by J. Praet and co-authors showed that BMD in patients with chronic bronchitis is reduced. The high incidence of osteopenia (OPN) and osteoporosis (OP) in COPD patients has been proven to reach 60%, and as the disease progresses, OP is detected more often [4]. The logical result of the development of OP are fractures. The emergence of fractures adversely affects the quality of life of any patient, but for COPD patients, fractures are associated with impairment of pulmonary function and a significant weighting of the underlying disease. OP spine with the development of vertebral fractures increases the risk of exacerbations of COPD.

Key words: osteoporosis, osteopenia, bone mineral density.

Goal To study the state of bone mineral density in men with COPD of different risk categories without considering the degree of severity.

Materials and methods A comprehensive clinical evaluation was performed to assess the anthropometric data (height, body weight, BMI), smoker index in 50 patients with COPD aged 45 to 65 years in the ABCD category (GOLD, 2017), without regard to the severity level, which were divided into three equivalent groups. The duration of the disease was determined retrospectively. Indicators of bone mineral density (BMD) were determined by the method of dual X-ray absorptiometry (DRA), in the spine area (T-test and Z-test). T-test - the number of standard deviations above or below the average peak bone mass. Z-test - the number of standard deviations above or below the average for a given age [2]. DRA