(NA), dopamine (DA) and acetylcholine (ACh) were determined in homogenates of the frontal lobe of the brain.

Results. Motor disorder such as tremor were observed in rats with Parkinson-like syndrome. Treatment with PC-2 peptide complex (group 2) resulted in the normalization of symptoms on days 12-15. Treatment with bone marrow mesenchymal stem cells resulted in the normalization of symptoms on day 20. Combined treatment resulted in the normalization of symptoms on days 8 -10. The level of DA and NA was found statistically decreased and ACh increased in group 2.

The content of ACh was reduced to almost the level in control animals on day 10 in group 3. The treatment of mesenchymal stem cells resulted in the normalization of DA on day 10. All the studied parameters are normalized on day 10 in combination treatment. Comparison of our data on the content of biogenic amines with the nature of motor disorders makes it clear that participation in ACh in the genesis of motor disorders in PS in rats.

Conclusions. 1) The content of DA and HA decreases and the level of Ach increases in rats with model PS in the homogenate of the frontal lobe of the brain. Treatment with PC-2 normalizes the content of HA and AH and treatment with mesenchymal cells normalizes the level of NA. Combination therapy leads to normalization of the investigated parameters on day 10.

2). The combination of PC-2 peptide complex and stem cells demonstrate the highest effect of treatment.

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ASSESSMENT OF THE EXPRESSION LEVEL OF THE ENZYME O6-METHYLGUANIN-DNA METHYLTRANSFERASE IN THE LIVER UNDER THE INFLUENCE OF XENOBIOTICS

Introduction: It is known that the expressed carcinogenic, cytotoxic and mutagenic potential of cells is observed under the conditions of alkylation of nitrogenous bases in

different positions, but the alkylation of guanine at the O6 position has the most pronounced pathological effect. In the course of DNA repair, the O6-methylguanine-DNA methyltransferase (MGMT) enzyme protects the cell from mutagenic and cytotoxic damage by transferring the alkyl group from the O6-position of guanine to its own cysteine residue. An immunohistochemical reaction to the presence of the MGMT antigen may be an indicator of the body's reparative potential under adverse xenobiotics. Aim - to evaluate the level of expression of O6-methylguanine-DNA methyltransferase enzyme in the liver under the influence of xenobiotics. Materials and Methods: A subacute toxicological experiment was performed in three groups of animals: a control and two experimental animals in the number of 10 mature (6-8 months) white rats of both sexes of the WAG population in each. Aqueous solutions of polyethylene glycol-400 (PEG-400), polypropylene glycol (PPG) and ethylene glycol (EG) were injected daily intra-gastrically for 45 days at a dose of 1/10 DL50 with a metal probe. The control group of rats received the corresponding volumes of drinking water. The liver of rats was fixed with 10% neutral formalin solution, carried through a battery of alcohols of increasing strength and poured into paraffin blocks. Immunohistochemical studies of the level of expression of the enzyme O6-methylguanine-DNA methyltransferase were carried out at the Scientific Center for Pathomorphological Research of Sumy State University.

Results. In the morphometric study of the expression features of the MGMT marker, we determined that the percentage of MGMT-labeled hepatocytes is significantly increased compared to the intact group of animals and has features depending on the type of test KB. It was found that the highest level of MGMT expression, that is, the percentage of MGMT-labeled hepatocytes was observed under the influence of PEG-400 at a dose of 1/10 DL50 and was 47.58 ± 2.39%, indicating the activation of cell repair potential compared to the control group animals, in which the percentage of MGMT-labeled hepatocytes was 14.28 ± 2.39%, which is 3.33 times less than in the experimental groups. With EG and PPG, the percentage of MGMT-labeled hepatocytes was 40.91 ± 2.41% and 42.74 ± 1.98%, respectively, which is 2.86 and 3.00 times higher than the control group, which may also indicate about the significant activation of DNA repair processes, but not as pronounced as under the influence of PEG-400. Conclusion: In

immunohistochemical study in the nuclei of hepatocytes of experimental animals under the influence of the studied xenobiotics, an increase in the percentage of MGMT-labeled hepatocytes was determined in comparison with the control group, indicating the activation of DNA repair processes.

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THE PREVALENCE OF ALLERGIC DISEASES AND THE ATMOSPHERIC POLLUTION LEVEL IN KREMENCHUG

Introduction. It is known that environmental pollution adversely affects the human body condition, including appearance and development of allergic diseases. Thus, the purpose of our study was to investigate the relationship between environmental pollution and the prevalence of allergic diseases in Kremenchug, which is a large industrial center.

Material and methods. The method of the study was a statistical analysis of data that were provided by the city sanitary epidemic station and the main medical department of Kremenchug about atmospheric pollution level (dust, sulfur dioxide, carbon monoxide, oxides of nitrogen, phenol, carbon black, ammonia, formaldehydes and sulfates) and the prevalence of allergic diseases in Kremenchug in 2018 relatively. Two districts of Kremenchug located at different distances from the industrial zone of the city have been compared: the center remoted from source of pollution and the Molodizhny district that is close to the industrial enterprises. The concentrations of the substances were estimated as a percentage of the maximum allowable average daily concentrations.

Results and discussion. The study showed that the level of pollution varied throughout the year. The lowest concentrations of dust and hazardous substances were observed in the cold season from October to April, but under significant warming in May their concentrations were increased substantially with maximum values in July and August. The nitrogen dioxide concentration in Molodizhny district achieved 350% of the maximum allowable concentrations, and the phenol one — 250%. The concentration of formaldehyde increased to 270% in May and to 540%. These are the highest rates in the last few years.