шляхом ериптозу. У еритроцитах АФК більшою мірою продукується внаслідок аутоокислення молекули гемоглобіну з утворенням метгемоглобіну. Таким чином, виявлені ефекти Е407а на еритроцити можуть свідчить про можливу залученість саме цих клітин у реалізації ефектів карагінанів.

## EXPERIMENTAL STUDY OF THE INFLUENCE OF LONG-TERM ADMINISTRATION OF LORATADINE SYRUP ON THE BIOCHEMICAL INDICATORS OF THE BLOOD OF IMMATURE RATS

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**Introduction.** According to the data of the World Health Organization, according to the incidence rate, allergy ranks 3rd among other nosologies. 20-40% of the world's population suffers from one or another form of allergic disease, that is, at least every 5th inhabitant of the planet. Allergy is an undefined immune reaction of the body to exogenous and endogenous antigens. The result of this reaction is urticaria, seasonal and annual allergic rhinitis, asthma, and food allergy. Allergic diseases of the respiratory organs are an extremely urgent problem of children's age, which to a large extent form the incidence and prevalence of pathology in children. Antihistamines are among the most widely used drugs in the world. Loratadine is an antihistamine drug of the II generation, which differs from drugs of the I generation in the absence of a sedative effect, an effect on choline and serotonin receptors, interaction with alcohol and psychotropic drugs, habituation with long-term use, as well as a high affinity for H1 receptors. Loratadine has sufficient activity, duration of antihistamine action, good pharmacokinetic properties and "price/quality" ratio, and minimal side effects, which makes it possible to recommend it in treating allergic diseases in children. At the same time, the question of the proper use of antihistamine drugs is becoming relevant since it has been proven that most xenobiotics can cause liver damage. Today, the spectrum of hepatotoxic drug reactions continues to expand.

**The aim of the study:** to investigate the effect of long-term (ten-day) blocking of histamine receptors with the drug Loratadine on the structural organization of the liver of immature rats as a center of metabolism of xenobiotics in an experiment.

**Materials and Methods.** The antihistamine drug Loratadine (Loratadin syrup, 5 mg/5 ml, 90, LLC DKP "Pharmaceutical Factory", Zhytomyr) was used to reproduce

drug-induced damage to the liver. Loratadine was used in a dose of 0.15 mg/kg, corresponding to the therapeutic maximum daily dose for a child and was calculated using the species sensitivity constant (Rybolovlev Y.B., 1979). The functional state of the liver was assessed by biochemical indicators in the blood serum of sexually immature rats aged 1 month: the activity of the enzymes alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatase (ALP), the content of cholesterol, bilirubin with the help of test kits from the company "Filisit" (Ukraine), the pool of medium molecules and urea. The obtained experimental data were processed by parametric (Newman-Keuls) and non-parametric (Mann-Whitney) methods of variational statistics using the statistical software package "Statistica 6.0", differences were considered statistically significant at $p<0.05$. Experiments were carried out following the "General ethical principles of animal experiments" (Kyiv, 2001), which are consistent with the provisions of the "European Convention for the Protection of Vertebrate Animals Used for Experimental and Scientific Purposes" (Strasbourg, 1986 with amendments, 1998).

**Results and Discussion.** According to the obtained data, the introduction of Loratadine at a dose of 0.15 mg/kg caused a persistent increase in lipid peroxidation, which resulted in the labilization of cell membranes and the release of marker enzymes from them, resulting in the manifestation of the cytotoxic effect of the drug and related to this, violation of the synthetic function of the organ. In the blood serum of rats, an increase in the activity of marker enzymes of cytolysis was observed: ALT – by 69% ($p<0.05$) and AST – by 52% ($p<0.05$). Along with this, there was an increase in cholesterol content by 68% ($p<0.05$), urea – by 60% ($p<0.05$), bilirubin – by 74% ($p<0.05$), the pool of medium molecules by 18% ($p<0.05$), the increase in ALP activity by 50% ($p<0.05$) relative to the intact control, which indicates a violation of the detoxification function of the liver and the presence of endogenous intoxication.

**Conclusion.** The study results are consistent with the literature data that using Loratadine induces the development of interconnected biochemical changes in the liver.