

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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THE INFLUENCE OF LIPIN ON THE FUNCTIONAL STATUS OF THE KIDNEYS IN RATS UNDER THE CONDITIONS OF THE GLYCEROL MODEL OF ACUTE RENAL FAILURE WITH LONG-TERM USE

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Introduction. The topical direction of modern medicine is the use of drugs with minimal side effects. A promising direction of increasing the selectivity of the action of the medicinal product is the creation of a carrier capable of retaining the medicinal (active) substance in its structure and purposefully delivering it to the necessary organ with its subsequent release, which reduces toxicity and protects the substance from the neutralizing effect of the physiological environment. Currently, the attention of many researchers in pharmacotherapy is focused on the practical use of liposomes, which are carriers of active substances.

The aim of the study was to determine the influence of lipin on the functional status of the kidneys in rats under the conditions of the glycerol model of acute renal failure with long-term use.

Materials and methods. Liposomal drug lipin is a drug of natural origin, which is lyophilized egg phosphatide choline.

Results. At the stage of the extemporaneous study, the effect of lipin on the functional state of the kidneys in rats was studied under the conditions of the glycerol model of acute renal failure with long-term use. Experiments were performed on 28 non-linear white outbred rats (weighing 120-180g). The kidney pathology model was induced by intramuscular injection of 50% glycerol solution at a dose of 10 mg/kg. Lipin was administered at a dose of 50 mg/kg. To assess the functional state of the kidneys under conditions of induced diuresis, urine was collected for 2 hours in exchange cages, after which blood was collected by decapitation of rats on the 7th day of the experiment. It was established that in this model of acute renal failure, there were profound changes in the functional state of the kidneys. Violation of the excretory function of the kidneys was manifested in polyuria. The concentration of creatinine in urine was significantly higher than the control. Thus, according to the data of the experiment, the studied drugs reduce diuresis by almost 1.2 times compared to the indicators of untreated rats, which indicates the possibility of the drugs to restore the kidney's ability to remove water load. In animals with renal pathology, the rate of glomerular filtration has increased by 1.3 times on the 7th day, and the use of lipin has reduced this indicator by 1.4 times compared to the pathology, returning the function to the control level. The concentration of creatinine in the blood plasma decreased when using the drug, however it remained high in the urine compared to the control. The concentration and excretion of protein decreased in comparison with untreated animals when using lipin by 1.4 and 2 times.

Conclusions. Long-term administration of lipin in the treatment regimen has a somewhat positive effect on the ion-regulatory function of the kidneys, as evidenced by a 1.2-fold decrease in the excretion of sodium ions in the urine compared to untreated animals. So, the seven-day use of lipin confirmed its nephroprotective activity due to its antioxidant properties. However, the introduction of lipin is not accompanied by a complete recovery of glomerulo-cannular processes, which requires complex use, and it is also promising to use it as a carrier base, which will allow to increase the concentration of the active substance in the focus of inflammation, due to the high bioavailability of the liposomal form, as well as due to the synergism of effects.

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STUDY OF THE FEVER-INDUCED CHANGES IN KIDNEY FUNCTION

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Introduction. Kidney and urinary tract diseases, especially of microbial-inflammatory origin, occupy one of the leading places in the structure of somatic pathology. The kidneys play an important role in the maintaining homeostasis, which is characterized by a constant volume of fluid,