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COMPARISON OF LIVER TISSUE MORPHOLOGY AND MORPHOMETRIC INDICATORS IN NORMAL AND POLYPRAGMOUS ANTI-INFLAMMATORY DRUGS IN ALBUM RATS UNDER THE EFFECT OF 4 DIFFERENT ANTI-INFLAMMATORY DRUGS

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Abstract. According to the World Health Organization, polypharmacy is one of the problems of the 21st century. Anti-inflammatory drugs are among the most commonly used drugs. Recently, polypharmacy has become a serious public health problem as a result of iatrogenicity. Reducing the pharmacotherapeutic properties of drugs causes an increase in the cost of treating patients. As a result, it shows that the problem of polypharmacy is not only a medical, but also a social problem, and finding a solution to it is an urgent task.

Currently, polypharmacy treatment with anti-inflammatory drugs is used in medical care for patients of all ages. Along with other organs in the body, scientific research is being conducted to study the effect of polypharmacy on the liver, various pathological conditions that occur in the liver under the influence of drugs, as well as the morphological changes of the liver. Diseases that appear in the liver under the influence of drugs, their complications are studied, and methods of treatment and prevention are recommended. However, there are very few studies devoted to studying the morphological changes that can occur in the liver under the influence of several anti-inflammatory drugs at the same time.

Key words: experimental, morphological, morphometric and statistical research methods

Relevance. In our country, comprehensive measures aimed at the development of the medical field, in particular, the reduction of functional and organic liver dysfunction, diseases and their complications, as well as the improvement and prevention of disease, treatment methods, are being implemented and certain results are being achieved. In this regard, in accordance with the seven priorities of the development strategy of New Uzbekistan for 2022-2026, tasks such as "...improving the quality of qualified services to the population in primary medical and sanitary services..." are defined in raising the level of medical services to the population to a new level. Based on this task, morphological and morphometric analysis of the liver parenchyma of white non-breed rats in polypragmasy, comparative analysis of the absolute weight of the liver, length, width, thickness, volume, transverse size of hepatocytes, diameter of central veins, diameter of interlobular artery, diameter of interlobular vein and diameter of bile ducts, as a result of evaluating their changes in the experimental liver under the conditions of polypharmacy, it was possible to develop the prevention of their diseases, and to reduce the complications arising from the disease by improving the treatment measures.

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Aim and tasks. The purpose of polypharmacy was to determine and evaluate the characteristics of morphological changes in the liver parenchyma of a five-month-old purebred rat under the influence of anti-inflammatory drugs. The objectives of the study are to study and evaluate the basic morphological parameters of the liver of five-month-old purebred rats, to determine the morphological changes of the liver of laboratory animals with the simultaneous use of four anti-inflammatory drugs.

Material and methods. During the examination, a total of 40 liver tissues, divided into two groups, were pathogistologically examined based on macroscopic and microscopic studies of liver tissue. For general morphology, 2 pieces of each liver, i.e. a large piece and a piece of 1.5x1.5 cm from the middle part, were cut and frozen in 10% neutral formalin. After washing in running water for 2-4 hours, they were dehydrated in increasing concentrations of alcohol and xylene, then paraffin was poured and blocks were prepared. 5-8 µm sections were prepared from paraffin blocks and stained with hematoxylin and eosin. The following anti-inflammatory agents were used to study the effects of polypharmacy in experimental groups of white rats in the experimental group.

Analysis and results. White male rats treated with 4 different anti-inflammatory drugs, acetomenophen 15 mg/kg, aspirin 5 mg/kg, ibuprofen 6 mg/kg, dexamethasone 0.1 mg/kg (n=50).

From the 141th day of development to the 150th day of development, rats in the control group of non-white rats were injected with 0.5 ml of distilled water intragastrically for 10 days.

Sections taken from the liver of purebred rats were morphometrically examined, and the size of liver parenchyma and hepatocytes was measured using an ocular micrometer, in which we used a trinocular microscope made in China.

The fourth group was the introduction of two types of anti-inflammatory drugs and the study of morphological and morphometric changes in the liver parenchyma system, called the morphology and morphometric characteristics of liver tissue in purebred rats.

Sections taken from the liver of rats were examined morphometrically, and the size of liver parenchyma and hepatocytes was measured using an ocular micrometer. The introduction of four types of anti-inflammatory drugs and the study of morphological and morphometric changes in the liver parenchyma system, the use of a complex of anti-inflammatory drugs (IAD) as described above, led to the appearance of various changes in the liver parenchyma of rats.

The weight of the rats ranged from 187.7 to 234.7 g, with an average of -220 g. The fourth group of rats had a liver mass of 7.13g to 9.2g, an average of 7.9±0.24g, a liver length of 2.7-3.6cm, an average of 3.16±0.1cm, the upper and lower liver the distance between the edges is 1.9-2.5cm, the average is 2.2±00.68cm, the thickness is 2.7-3.4cm, the average is 3.1±0.09cm. The transverse size of liver hepatocytes is from 196.0 to 28.0 µm, the average is 23.6±0.73 µm, the average cross-sectional area of hepatocyte cytoplasm is from 403.0 µm 2 to 675 µm 2, the average is 630.5±19, 5 µm 2 .The number of binuclear hepatocytes per 100 hepatocytes is in the range of 10-18 µm, with an average of 12.9±0.4 µm. The diameter of the central veins is from 48.0 to 76.0 µm, the average is 55.0±1.7 µm. The diameter of interlobular veins ranges from 20.0 to 34.0 µm, on average - 27.42±0.84 µm. The diameter of interlobular arteries ranges from 9.9 to 15 µm, with an average of 13±0.40 µm. The size of bile ducts ranges from 15.0 to 28.0 µm, the average is 20.5±0.63 µm.

Thus, the administration of a complex of steroidal anti-inflammatory drugs (SAID) as described above led to the appearance of various pathomorphological changes in the liver parenchyma in rats. it is recommended to include hepatoprotective agents in treatment regimens.

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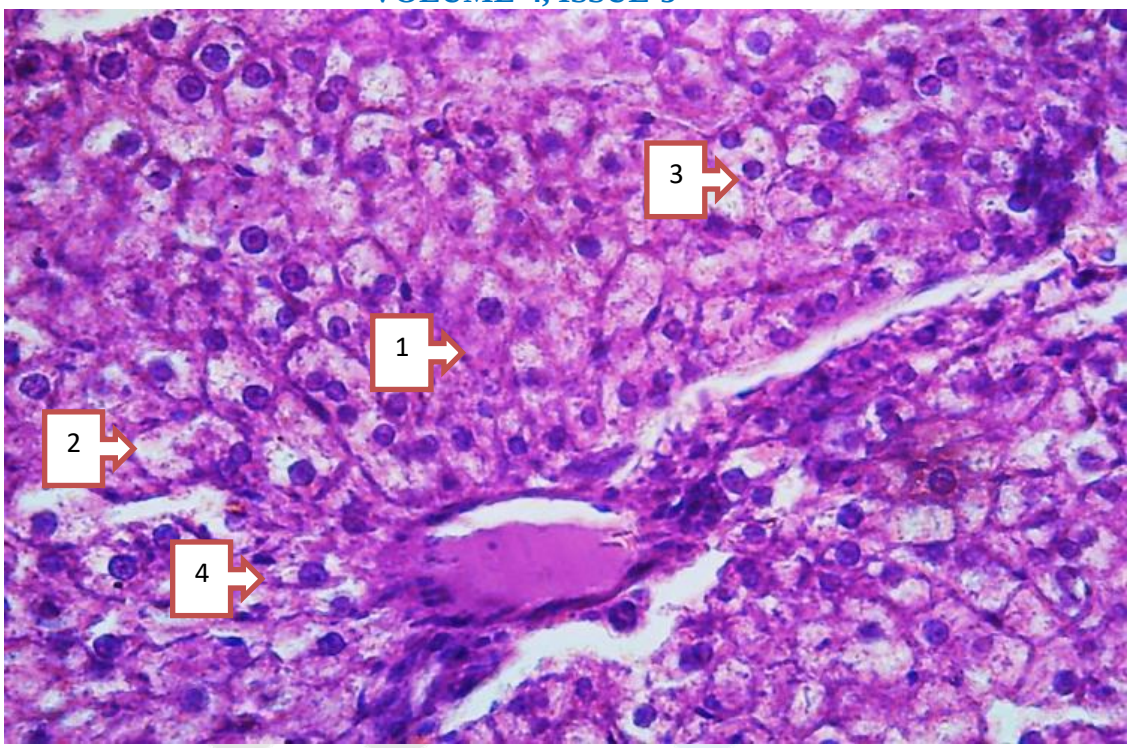

Figure 1. Liver tissue from a non-white rat. The interlobular vein is full (1), the sinusoidal spaces are dilated (2), hepatocytes with lysed nuclei (3), normal preserved hepatocytes (4), migration of Kupffer cells (5). Stain: hematoxylin-eosin.Ok.20,ob.40.

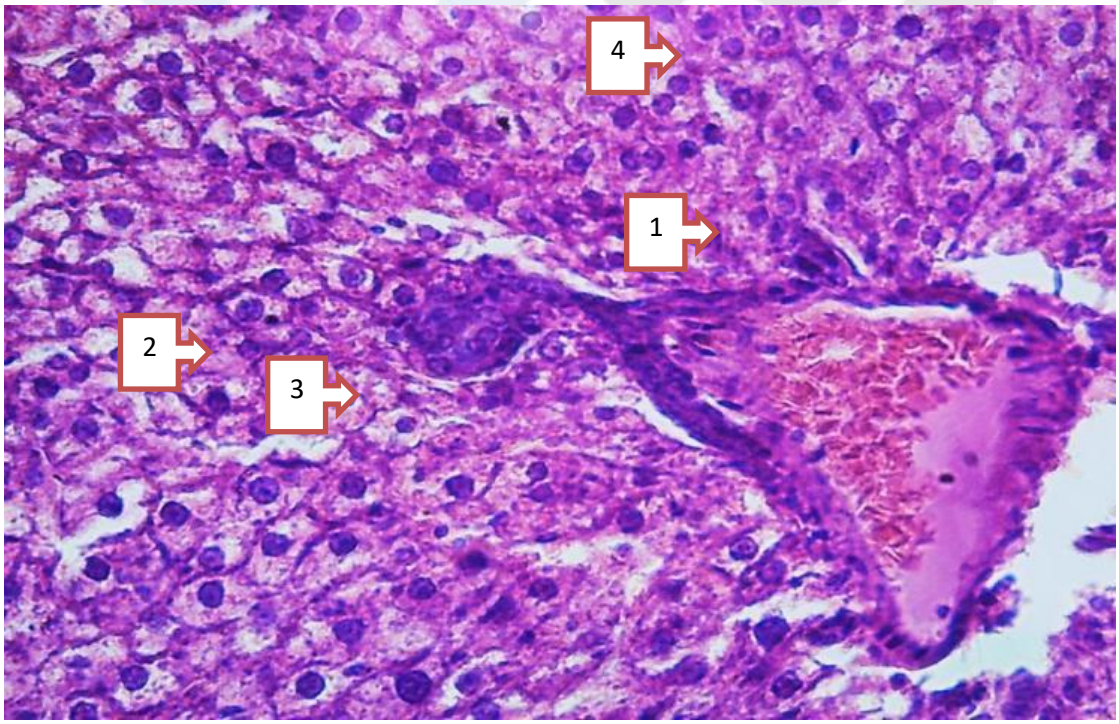

Figure 2 Liver tissue from a non-white rat. The interlobular vein is full (1), the sinusoidal spaces are dilated (2), hepatocytes with lysed nuclei (3), Kupffer cell migration (4). Stain: hematoxylin-eosin. Ok. 20, ob. 40.

Conclusion. In the next histological preparation of the liver of purebred rats presented in the fourth stage of the study, when four types of drugs were used, the migration of Kupffer cells

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around the periportal vein blood vessel (60%, n=10), and the phagocytosis of necrotic hepatocytes by Kupffer cells (40%, n=8) were observed. .

Perisinusoidal spaces (spaces of Disse) were of different widths and were barely detected in the field of view (80%, n=11).

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