

test. Over time, the most demanding species dropped out of the collection, while the resistant ones remained. Of course, this process was superimposed on other objective and subjective reasons, but this is a matter of further research and analysis.

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STRUCTURAL CHANGES IN TOXIC LIVER DYSTROPHY IN THE FOREST MARTEN (*MARTES MARTES*, 1758)

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Keywords: pine marten, liver, nutrition, pathomorphological changes, ecology.

A number of complex processes take place in the liver of animals: metabolic products are rendered harmless, glycogen and bile are formed, blood plasma proteins are synthesized, iron is metabolized, blood is detoxified, etc. Such numerous and important functions of the liver determine its importance for the body. With toxicosis of various origins (fodder, including mycotoxin, embryonic, medicinal, etc.), one or more functions of the organ fall out and toxic substances accumulate in the blood, leading to the development of dystrophic and / or necrotic processes [1; 2].

The purpose of this work is to describe the pathomorphological changes in the body during toxic liver dystrophy in the forest marten (*Martes martes*, 1758).

Material and methods. The work was carried out in the conditions of one of the zoos of the Republic of Belarus and is a special case. The corpse of a 3-year-old brown pine marten served as the material for the study. For the extraction of organs during autopsy of the corpse, we used the method of complete evisceration according to G.V. Shore. When describing organs and cavities, we used generally accepted schemes. Pieces of the liver, kidneys, and myocardium were taken for histological examination, which were fixed in 10% formalin [3]. The stages of the preparation of histosections (fixation, washing, dehydration and compaction) were carried out according to the proven methodology of the

laboratory of the Department of Pathological Anatomy and Histology VSAVM. For an overview study, the sections were stained with hematoxylin–eosin. Histological studies were carried out using a light microscope «Biomed–6».

Findings and their discussion. An external examination of the pathomorphological changes was not found: the corpse was emaciated, the visible mucous membranes were smooth, moist, shiny, gray in color. An internal examination revealed that the liver is enlarged, the edges are dull, the capsule is tense, the shape is not changed, the consistency is flabby, the parenchyma breaks easily, from the surface and on the cut it has a spotty color: brown and red areas alternate with gray and light yellow, on the sectional drawing of the lobular structure is smoothed. The stomach is moderately filled with dry fodder, its wall is thickened. The mucous membrane is swollen, dull, intensely reddened, covered with grayish mucus. The small intestine is moderately filled with chyme, its wall is thickened, the mucous membrane is intensely reddened, swollen, covered with grayish mucus. The large intestine is moderately filled with feces of a doughy consistency, brown, the mucous membrane is gray. The gallbladder is intensely filled with bile of a dark green color of liquid consistency, its mucous membrane is velvety, yellow–green in color. The kidneys are enlarged, the capsule is tense, the edges of the cut capsule do not converge, the shape of the kidneys is not changed, the consistency is soft, the color is gray, the cut surface is matte, moist, the border between the cortex and the medulla is smoothed. Histological changes in the liver were manifested by changes in the central and middle parts of the hepatic lobules. In the foci of yellow color, the liver parenchyma was in a state of fatty decomposition (small–drop fatty degeneration). The cytoplasm of the liver cells contains a lot of protein granularity, the cells are in a state of necrobiosis. The central blood vessels are dilated and full of blood. Deposition of pink protein granules was observed in the urinary tubules of the kidneys and cardiomyocytes of the heart. On the basis of postmortem examination and histological examination of organs, the following postmortem diagnosis was determined:

1. Acute alterative hepatitis (toxic liver dystrophy).
2. Acute catarrhal gastroenteritis.
3. Serous inflammation of the mesenteric lymph nodes.
4. Granular dystrophy of the kidneys and myocardium.
5. Exhaustion.

Conclusion. Thus, in the acute course of alterative hepatitis in the organ, various pathological changes develop simultaneously – hyperemia, fatty and granular degeneration, necrosis. At the same time, with chronicity of the process in the liver, postnecrotic cirrhosis may develop. The studies carried out supplement the available data on the pathomorphology of liver diseases in carnivores.

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MORPHOLOGICAL CHANGES OF KIDNEY PATHOLOGY OF THE RIVER BEAVER (*CASTOR FIBER* L.) IN THE NATURAL ECOSYSTEM OF THE REPUBLIC OF BELARUS

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Keywords: river beaver, kidneys, pathomorphology, toxins, ecosystem.

The fauna of aquatic animals in Belarus is represented by a huge number of animals. One of these animals is the river (common) beaver (*Castor Fiber* L.). Beavers belong to the category of strictly herbivorous, semi-aquatic animals that feed exclusively on tree bark or plant shoots. They eat more than 200 species of plants (calamus, stinging nettle, broad-leaved cattail, meadowsweet, yarrow and horse sorrel). From trees and shrubs, they prefer aspen, willows (about 10 species), willingly eat young oaks, hazel, linden, elm, bird cherry, birch. Sometimes beavers eat pine and spruce bark. It is possible that coniferous trees contain some substances necessary for animals that have medicinal properties [1].

The aim of this work is to study pathomorphological changes in the kidneys of the river beaver.

Material and methods. The studies were carried out on the cadaveric material of adult river beavers ($n = 2$), delivered to the prosectorium of the Department of Pathology and Histology of the VSAVM for the purpose of conducting a forensic veterinary examination. In the study, macroscopic changes in the urinary system of animal corpses were described, and pieces of kidneys were selected for further histological examination. They were fixed in a 10%- solution of neutral formalin. To study general structural changes, the sections were stained with hematoxylin – eosin. The data obtained were documented by microphotography using digital systems for reading and inputting video images, as well as software for inputting and processing images [2, 3, 4, 5].

Findings and their discussion. Macroscopic examination in the kidneys revealed foci of compaction and an uneven gray-brown color of the incision surface. The histological examination of the selected material revealed signs of acute and chronic inflammatory processes. So, in the cortex, the vascular glomeruli were in a state of hyperemia, in the cavities of Shumlyansky's capsules,