

fixed in the interstratified pores of particles of the nanostructured sorbent. A sorbing bandage made up of Ingo- 2 does not cause drying up of the wound surface. In the investigated group pillows of wound bandages on all bandaging of postoperative period moved away from wound surfaces painlessly, independently and without any effort. Surfaces of pillows of wound bandages from the side of wounds were moist, but saved integrity. Outward surfaces of pillows of wound bandages were absolutely dry and saved the white color of filtration paper.

In a control group traditional cotton-gauze bandages got wet abundantly with the separated liquid of a wound that flowed under them. All bandages exhausted their sorbing potential in a few hours after being put over a wound and stuck to the wounds. Extremities of the animals of a control group were gummy and hurt during palpation. Bandaging were more traumatic in comparison with the investigated group, therefore animals needed anaesthetizing. The results of cytologic researches confirmed high efficiency of the investigated wound bandages with a sorbing layer made up with nanostructured Ingo-2 in comparison with cotton-gauze bandages.

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### Condition adrenergic innervation and contractility of the lymphatics toxic hepatitis



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Multifunctionality of the lymphatic system defines its importance for supporting homeostasis in the body. The aim of the present research is to study the functional properties of the lymphatic system under the toxic hepatitis induced by CCl<sub>4</sub>.

The results of the research showed that the adrenergic innervation of pancreas of an intact rat is presented in the form of a plexus around blood vessels and the main duct. In various parts of pancreas destruction of nerve fibers and catecholamine's diffusion from varicose thickenings of independent nervous fibers as well as of accompanying gland microvessels were detected. Spontaneous contractile activity of isolated mesenteric and cervical lymph nodes in intact rats in the form of a phasic rhythmic contractions was expressed. In rats with toxic hepatitis spontaneous contractile activity was significantly depressed, in some of the experiments slow tonic waves appeared. In the control group under the action of adrenaline, acetylcholine and histamine ( $1 \times 10^{-8}$ – $1 \times 10^{-3}$  M) on mesenteric nodes contractile responses with an increasing amplitude and frequency of contractions. Irritation threshold for vasoactive substances was 10–8 M were observed.

Thus, toxic hepatitis in rats causes disturbance of adrenergic innervation of blood and lymphatic vessels, nodes, and pancreas. During the toxic hepatitis spontaneous and induced contractile activity of the lymph nodes resulting in the deterioration of drainage and transporting function of the lymphatic system and causing metabolic disturbances identified by us that negatively

impacts the state of smooth muscle cells membranes of the lymph nodesis depressed.

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### Amphibians under conditions of anthropogenic landscape



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At the present time, when there are no landscapes, not subjected to the anthropogenic influence, the problem of adaptive variability of amphibians to the forefront of scientific research, as it allows to reveal the mechanisms by which animals adapt to the new conditions of existence. The lake frog is a convenient object for investigation of the results of the effects of anthropogenic pollution, because it is widely distributed, in various stages of ontogeny in most water bodies in Kazakhstan, Kyrgyzstan and neighboring countries.

The aim of this research was to reveal the variability of basic ontogenesis characteristics, analyze the variability of abundance and population structure of the lake frog. A result of research identified a range of adaptive changes under the action of anthropogenic factors. Under the influence of anthropogenic pollutants detected increased mortality of adults, the accumulation of pollutants in large numbers in the adult body, understating the survival of embryos, morphological and morpho-physiological changes in body size. All of these reactions can manifest themselves both in isolation and in a complex and have different importance for the animals.

The adaptive changes ensure the survival of amphibians in the contaminated environment and are the basis of microevolution process in these specific conditions, whereas the pathological changes caused a reduction in the number and density of population. In the early stages of ontogenesis are expressed in these reactions increased mortality of eggs and larvae, appearance anomalies elongation, usually a period of metamorphosis, changing size of metamorphosed individuals.

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### Amino acid profiles and sucrose content in developing soybean seeds



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Since soy is a rich source of protein and oil, one of the main objective of breeders around the world is to enhance the nutritional quality