

**MORPHOMETRIC PARAMETERS OF THE STRUCTURAL ELEMENTS OF THE
LIVER WHEN EXPOSED TO DROPP DEFOLIANT**

K. R. Ochilov

Bukhara State Medical Institute, Republic of Uzbekistan, Bukhara

SUMMARY

3 hours after administration of the defoliant dropa to animals, the beam structure of the liver is preserved. The nuclei of hepatocytes are approximately the same size, moderately hypochromic. There is a moderate expansion of the lumen of the sinusoid capillaries. Perisinusoidal space is not visualized. Among the elements of the lining of sinusoid capillaries, stellate reticuloendotheliocytes with enlarged, hyperchromic nuclei are often found. The cytoplasm of hepatocytes is somewhat enlightened, has a weak grain.

Key words: defoliant drop of hepatocellular agrosi, electronmicroscopy.

RELEVANCE

At present, public health is an urgent global issue. The majority of environmental pollutants are pesticides, without the use of which the prospective development of agriculture is impossible. According to the World Health Organization (WHO), from 500 thousand to 2 million people are exposed to pesticide poisoning every year in the world, and 40 thousand cases are fatal.

Currently, the use of highly toxic organophosphorus and organochlorine pesticides is prohibited or limited, they are replaced by pesticides derived from pyrethroid, pyrazole and other classes. Their advantages are: relatively low toxicity to animals and humans, high efficiency against insects when exposed to relatively small doses. The use of pesticides to increase productivity on a global scale is caused by the urgency of the problem of developing measures to prevent the negative effects of their effects on the human and animal body. 3 hours after the introduction of the animals defoliant droppa beam structure of the liver is preserved. The nuclei of hepatocytes are approximately the same size, moderately hypochromic. A moderate expansion of the lumen of the sinusoidal capillaries is observed. Peri-sinus spaces are not visualized. Among the elements of the lining of sinusoidal capillaries, stellate reticuloendotheliocytes with enlarged, hyperchromic nuclei are often found. The cytoplasm of hepatocytes is somewhat enlightened, has a weak granularity. The nuclei of hepatocytes, when electron microscopic examination 3 hours after the introduction of dropp, have a weakened electron density of chromatin, especially with regard to its condensed part.

The nucleoli are predominantly small; part of the cells contains two of them. The granular endoplasmic reticulum of hepatocytes 3 hours after the administration of dropp to animals is subject to reduction, vacuole expansion and fragmentation. In a similar state are the profiles of hydroelectric power stations. In the cytoplasm of hepatocytes, there is practically no grain of glycogen.

The mass of rats ranged from 122 g to 142.0 g, an average of 128.5 ± 3.54 g.

Sinusoidal capillaries are oriented mainly in the radial direction to the center of the lobules, where they flow into the central veins. Sinusoidal capillaries are in a state of fullness. The diameter of these hemocapillaries in cross section has a size from 8.0 to 20.0 μm , on average 16.0 ± 0.74 μm .

Hepatic cells are slightly reduced in size, dilated and edematous intercellular spaces. Hepatocytes have a mosaic pattern relative to the degree of damage: in some, granularity is expressed, and in others, pronounced enlightenment of the cytoplasm is observed. Bile capillaries are dilated, thin microvilli are present in the lumens.

Accumulations of lipofuscin and bile components are frequent in the cytoplasm. The first is localized diffusely in the cytoplasm, the second - in the biliary zone. With a single administration of rats, the drop was intragastrically, after 24 hours, the following morphometric changes were observed:

The mass of rats ranged from 120 g to 141.0 g, an average of 128.3 ± 3.54 g.

Liver mass in laboratory animals of this group ranged from 7.8 g to 10.0 g, an average of 9.4 ± 0.39 g. The mass coefficient averaged $7.35 \pm 0.35\%$.

The transverse size of hepatocytes (the distance from the center of one nucleus of hepatocytes to the center of the nucleus of the neighboring nucleus of another hepatocyte) varies from 22.0 to 29.0 μm , on average - 26.7 ± 0.43 μm . Hepatocytes have a polygonal shape with clearly distinguishable borders. The cytoplasm is amphophilic, granular. In the perinuclear zone and from the sinusoidal pole against the background of a relatively pale stained cytoplasm, there are accumulations of fine-grained basophilic material corresponding to a granular endoplasmic reticulum. Mononuclear hepatocytes are mainly found, along with them there are binuclear hepatocytes. The number of binuclear hepatocytes per 100 hepatocytes is in the range of 10-26, an average of 17.0 ± 0.99 .

The average cross-sectional area of the hepatocyte cytoplasm ranges from 440.0 μm^2 to 800.0 μm^2 , on average - 648.0 ± 22.32 μm^2 .

Hepatocyte nuclei are usually located in the center of the liver cells, but can be shifted to their periphery. Indicators of the cross-sectional area of the hepatocyte nuclei of the control group of rats are in the range from 100.0 μm^2 to 156.0 μm^2 , on average 130.2 ± 3.47 μm^2 .

The diameter of the interlobular arteries ranges from 10.0 to 20.0 microns, an average of 15.4 ± 0.62 microns. A smaller part of the terminal arteries, passing into the arterioles, takes part in the formation of sinusoidal capillaries.

The bile ducts of the triad, as in the liver of intact rats, are covered with a single-layer cubic epithelium, with a height of 4 to 6 μm , an average of 4.68 ± 0.15 μm . The size of the bile ducts ranges from 16.0 to 36 microns, an average of 24.5 ± 1.24 microns. Hepatic cells are slightly reduced in size, dilated and edematous intercellular spaces. Hepatocytes have a mosaic pattern relative to the degree of damage: in some, granularity is expressed, while in others there is a pronounced enlightenment of the cytop.

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