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MORPHOLOGICAL CHANGES IN THE UTERUS IN EXPERIMENTAL METABOLIC SYNDROME

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Introduction:

Most of the morphological and physiological studies are focused on morphological changes in the heart and pancreas. There are few studies devoted to the morphological changes of female reproductive organs in the case of metabolic syndrome. Taking into account the above, we studied the morphological changes in the uterus as an object of research. In the obtained results, the main morphological substrate was the changes in the appearance of destruction and defragmentation of the uterus.

The purpose of research: study of the morphological state of the uterus of women in experimental metabolic syndrome.

Materials and methods: Mature white laboratory rats weighing 180-200 grams were used as study material. The white rats taken for the experiment were divided into 2 groups. There were 10 rats in each group. For morphological research, uteri were taken, and histological sections prepared on a rotor microtome with a thickness of 8-10 microns were stained with hematoxylin and eosin, Van Gison methods. The first group was a control group, without clinical signs of somatic and infectious diseases, 10 rats were taken. Rats in the control group were continuously fed a traditional diet with food and water. In our second group, we called the experimental metabolic syndrome model. After denying signs of infectious and somatic diseases, healthy rats were given a diet rich in fat and carbohydrates. The diet of rats is 60% laboratory food, 20% sheep fat, 20% fructose. A 20% solution of fructose was given instead of drinking water. Rats were euthanized 30 and 60 days after the experiment. Laboratory white rats in the control and experimental groups were kept in the same conditions of the vivarium.

Research results: In the conditions of the metabolic syndrome called in experimental conditions, hypersecretion in the mucous membrane of the uterus, a decrease in the number of private glands located in the private plate of the mucous membrane, a slight decrease in the number of smooth muscle cells in the myometrial layer, an increase in collagen fibers and a violation of the normal functional state of the uterus are observed. In rats, it was found that macroscopically increased body weight was observed in the groups fed with a high-calorie diet in the induced metabolic syndrome.

The average weight of the rats taken for the experiment was 175.25±10.65 g, and on the 30th and 60th days of the experiment, this indicator increased to 215.15±8.45 g. It was found that the increase in body weight and the increase of fatty deposits in internal organs and blood vessels continued. This means that in morphological studies, all internal organs, including the functional epithelium of the endometrial layer in the uterus, have a high activity, an increase in the amount of mucus, a decrease in the number of closed tubular glands located in the private plate of the mucus, a slight decrease in the number of smooth muscle cells in the myometrium, collagen between an increase in fibers was observed.

Conclusion: In metabolic syndrome, the cells of the endometrial layer of the rat uterus were slightly swollen, hypersecretory, and their nuclei were hyperchromic. We saw that blood circulation in blood vessels in the endometrium's special plate is disturbed and the number of private glands is reduced, which leads to a decrease in the fluid produced by the uterus, as a result of which the stage of preparation for pregnancy slows down. It was observed that smooth fibrous unformed connective tissue grows into the myometrial layer and divides them into pieces, as a result of multiple growths, muscle elements decrease in the uterine myometrium and collagen fibers grow between smooth muscle cells.

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