



## MORPHOLOGICAL CHANGES IN THE LIVER DURING EXPERIMENTAL HYPODYNAMIA

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**Annotation:** Scientists who studied the effect of hypodynamia on the structure and function of the liver have conducted several studies. Hypodynamia (reduced activity, from the Greek *hypos* - "less" and *dynamos* - "movement") is a violation of body functions (musculoskeletal system, circulatory system, respiratory system, digestive system) with a decrease in motor activity, a decrease in the force of muscle contraction. Currently, due to urbanization, automation and mechanization of labor, and an increase in the role of communication media, the prevalence of physical inactivity is increasing. A sedentary lifestyle is the cause of many diseases. Physical inactivity is the result of a person's freedom from physical labor..

**Key words:** *liver, white laboratory rat, morphological indicator.*

Scientists who studied the effect of hypodynamia on the structure and function of the liver have conducted several studies. Hypodynamia (reduced activity, from the Greek *hypos* - "less" and *dynamos* - "movement") is a violation of body functions (musculoskeletal system, circulatory system, respiratory system, digestive system) with a decrease in motor activity, a decrease in the force of muscle contraction. Currently, due to urbanization, automation and mechanization of labor, and an increase in the role of communication media, the prevalence of physical inactivity is increasing. A sedentary lifestyle is the cause of many diseases. Physical inactivity is the result of a person's freedom from physical labor.

Inactivity is often observed in the population after 35-40 years of age due to the development of fatty tissue in various areas of the body and other reasons.



According to statistics from 2023, 5 million people died as a result of smoking, and 5.3 million people died as a result of physical inactivity. This result is a 1-year result. It is clear that low physical activity is even more dangerous than smoking.

**The purpose of the study:** Study of morphological changes in the liver during experimental hypodynamia.

### **Research materials and methods.**

#### **To achieve the goal, 84 white laboratory rats are used.**

White laboratory rats are divided into 2 groups. Group 1 is a control group of healthy rats. Rats in the control group are given 1.0 ml of saline solution every morning into the stomach. A subclavian catheter is used as a probe. After normal feeding, the rats are anesthetized under ether anesthesia on days 3, 7, 14, 21 and 30

Group 2 is an experimental group, in which 50 white laboratory rats are given excess food to induce experimental hypodynamia. As a result, the rats gain excess weight and become inactive.

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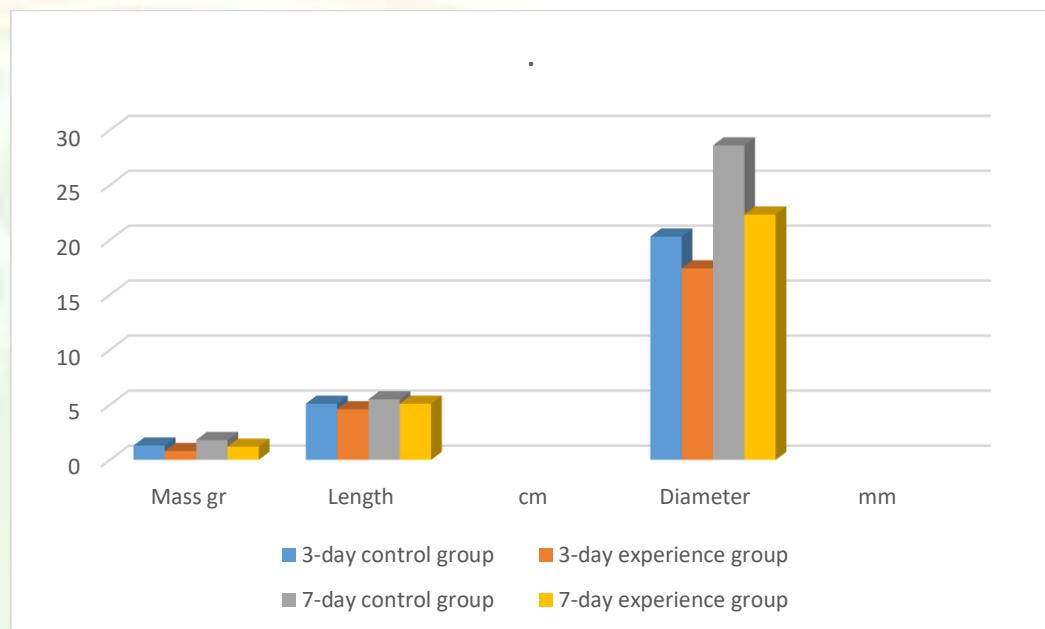
The following methods are used: general histological, organometric, morphometric, methods are used.

After opening the abdominal cavity and separating the liver, the length, width, and thickness of the organ are measured. These dimensions of the liver are measured using a caliper. An electric scale is used to measure the weight of the liver of mice and rats.

Paraffin histological sections prepared on a rotor microtome with a thickness of 8-10  $\mu\text{m}$  are stained using the hematoxylin-eosin method.

Diagram 1

**Organometric changes in the liver of rats are shown in the table below**



During the study, morphological changes in liver tissue were found, in particular, inflammation, necrosis and changes in cell structure. These results provide new information on the effects of stress on liver function and its features during pregnancy.

**Conclusion. 1.** At the same time, in most areas, lymphoid cells are distributed evenly.

2. The size of the segments was also reduced in length and diameter, and in some cases, necrosis was observed.

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