

XXII

International
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ABSTRACT BOOK

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OF
MEDICAL SCIENCES



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Preclinical Sciences

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EXCESS NUTRIENTS IN THE DIET AS A RISK FACTOR FOR THE DEVELOPMENT OF LIVER PATHOLOGY IN THE MOTHER-FETUS SYSTEM

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Introduction: Damage to the digestive system is one of the first places in the structure of causes of death among the population of the European region and the USA. Many studies have shown that an excess of nutrients causes weight gain and the development of atherosclerosis and arterial hypertension in non-pregnant animals, while the impact on offspring is not well understood.

Aim: The aim of the study was to determine the influence of excess fats and carbohydrates on the structural and functional state of the liver in the mother-fetus system.

Materials and methods: The study was conducted on 13 rats of the WAG population, which were divided into two groups. A set of morphological and biochemical studies of liver tissue was performed.

Results: During the analysis of the morphometric indicators of the liver of rat mothers and newborn offspring, it was found: the number of 2-nucleated hepatocytes was 1.5 times ($p < 0.01$) higher than that of the control group. In 100% of rats of the 2nd gr. there was a significant decrease in VOP and an increase in VOS and STI.

During the study of homogenates of the liver of rats of the 2nd group, considerable changes in the fractional composition of lipids were found: the level of cholesterol decreased by 28.1%, the content of TG and non-esterified fatty acids increased by 71.7% and 95.1% ($p < 0.01$). In newborn rats, the content of CH and TG increased - by 9.6% and 2.1% ($p < 0.05$), the content of PL - decreased - by 6.0% ($p < 0.001$).

Conclusion: Therefore, based on the data of the study, we can conclude that excessive consumption of high-calorie nutrients leads to the development of structural and functional changes that may form the basis for the development of liver fibrosis and type 2 diabetes mellitus in the mother-fetus system.

Keywords: liver pregnant rats, imbalance food, experiment

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