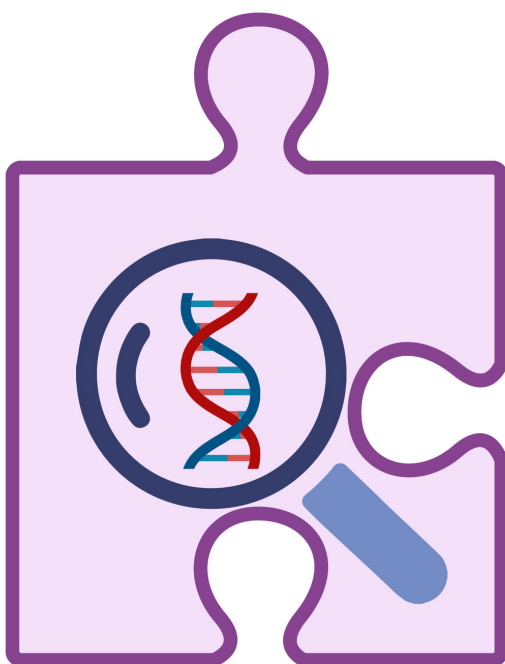


1ST INTERNATIONAL CONFERENCE FOR YOUNG SCIENTISTS

BIOMARKERS OF CIVILIZATION DISEASES

April 21, 2023



**BOOK
OF
ABSTRACTS**

Abstract book

**1ST INTERNATIONAL CONFERENCE FOR YOUNG SCIENTISTS
BIOMARKERS OF CIVILIZATION DISEASES**

Białystok, 2023

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Consumption of a nutrient-deficient diet as a risk factor for liver damage in the mother-fetus system

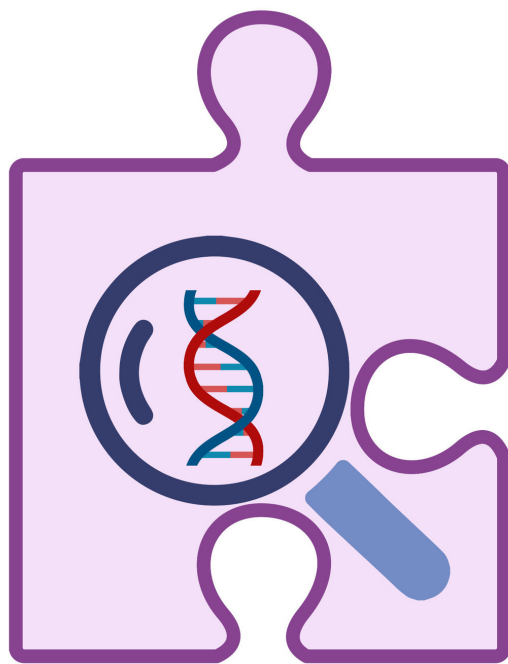
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In recent years, there has been an increase in the prevalence of gastrointestinal diseases in Ukraine, in particular, disorders of the hepatobiliary system. The diet plays the greatest importance among the factors that can negatively affect the state of the liver in the mother-fetus system. The purpose of this study was to determine the effect of a nutrient-deficient diet on the structural and functional state of the liver. The study involved 13 female WAG rats, divided into two groups: the first group (control) and the second group included female rats, receiving a diet with insufficient amounts of nutrients. The research implied a complex of IHC-studies of liver tissue (eNOS and iNOS) and biochemical studies of liver homogenates. The expression of eNOS in the vessels of the liver of mother rats receiving a nutrient-deficient diet and their newborn offspring was weak and uneven. Positively stained endothelium of sinusoids in most cases was found in the periportal parts of the lobules, while the central parts showed a mosaic or complete absence of staining. iNOS, on the other hand, marked the endotheliocytes of both sinusoids and central veins, and adjacent hepatocytes that were in a state of protein dystrophy. The liver tissue of mother rats was found to have a decrease in the level of all studied substances, but the content of C, PL and TG was significantly reduced (by 48.4% ($p=0.001$), 17.6% ($p<0.01$) and 60.9% ($p<0.05$). Newborn rat pups were shown to have a significant ($p<0.001$) decrease in the level of C by 21.01%, TG by 41.69%, as well as glycogen content (by 36.04%, $p<0.001$). Conclusions. Thus, based on the findings, it can be concluded that long-term consumption of a diet with an insufficient amount of nutrients results in significant changes in the structural and functional state of the liver in the mother-fetus system and is a risk factor for the development of organic impairments.



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