МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ

ІВАНО-ФРАНКІВСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

АСОЦІАЦІЯ МІКРОЕЛЕМЕНТОЛОГІВ УКРАЇНИ

НАУКОВЕ ТОВАРИСТВО ІМЕНІ Т. Г. ШЕВЧЕНКА

МАТЕРІАЛИ

науково-практичної конференції

з міжнародною участю

«Бабенківські читання»

присвяченої пам'яті академіка Г.О. Бабенка

26-27 жовтня 2023 року

Івано-Франківськ

акад. Г.О. Бабенко

УДК 616.37–092:612.345:613.24:57.084:57.088.6:577.118

THE LEVEL OF THE MACROELEMENT CALCIUM UNDER THE CONDITIONS OF THE INFLUENCE OF A HYPERCALORIC DIET ON THE PANCREAS OF EXPERIMENTAL ANIMAL

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Relevance. Throughout the existence of mankind, gastronomic activity has developed significantly: an abundance of tasty and cheap food; the prevalence of fast food chains; an increase in flavouring agents. However, it could not but not affect one of the most important organs of the digestive system - the pancreas. The imbalance of micro- and macronutrients that occurs in an unbalanced diet nutrition can contribute to the development of pancreatic pathology in both children and adults, and is therefore an urgent medical problem.

The aim of the study was to study the morphological and functional state of the rat pancreas and to determine the level of calcium due to the effect of an unbalanced diet with a high content of fats and carbohydrates.

Materials and methods. We studied the morphological and functional state of the pancreas of pregnant rats on a hypercaloric diet and their one- and two-month-old offspring (gand two-month-old offspring (1 g) and the state of the pancreas of animals of the same age on a balanced diet (2 g). Calcium activity in the glandular homogenate was determined by spectrophotometric method using reagent kits from «Filist-Diagnostics» (Dnipro) according to the attached instructions. To assess the statistical significance of differences between experimental groups, a one-factor analysis of variance was used.

Results of the study show that in rats of the main group and their offspring of different ages against the background of morphological changes in the pancreas (parenchymal hyperplasia with simultaneous increase in of dystrophic changes in exo- and endocrinocytes), there is a disturbed balance of macronutrients. In 100% of rats of group 1, the calcium level was elevated and amounted to 148.8% ($p < 0.001$) of the group 2 animals. In contrast to mothers, in pups born from rats of 1 group, there is a decrease in the calcium content, so in 100% of one-month-old offspring it is 73,7%±0,6 ($p < 0.001$), and in 100% of two-month-old animals - 79.7% ± 1 ($p < 0.001$) of the control group.

Conclusion. Thus, in experimental animals that received an unbalanced diet with a high nutrient content during pregnancy and their offspring have an imbalance of calcium in the pancreatic tissue, which can aggravate the disruption of the morphological and functional state of the pancreas.

ЗМІСТ