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# **RESULTS OF MODERN SCIENTIFIC RESEARCH AND DEVELOPMENT**



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# **RESULTS OF MODERN SCIENTIFIC RESEARCH AND DEVELOPMENT**

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# **THE INFLUENCE OF CHANGES IN THE BLOOD LIPID SPECTRUM ON THE DEVELOPMENT AND PROGRESSION OF DIABETIC GASTROPATHY DEPENDING ON THE TYPE OF CONCERNING SUGAR**

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**Introductions.** Diabetes mellitus (DM) remains one of the most recent problems in clinical medicine. The complaints of discomfort and abdominal pain is determined in 60-80% of patients with DM.

**Aim:** To study the changes in the lipid spectrum of the blood to determine the possible relationship between the degree of dyslipidemia, changes in the morpho-functional properties of the gastric mucosa (GM).

**Materials and methods.** 140 patients with type 1 and type 2 diabetes were examined. The study included 120 patients with diabetes mellitus-1 and diabetes mellitus-2, moderate, subcompensated, with manifestations of diabetic gastropathy (DG). Patients were divided into two groups depending on the type of diabetes: 60 patients with diabetes mellitus-1, including: 1 group - 24 patients with diabetes mellitus-1 without manifestations of DG, 1A group - 36 patients with diabetes mellitus-1 with manifestations of DG; 60 patients with diabetes mellitus-2: group 2 - 21 patients with diabetes mellitus-2 without manifestations of DG, group 2A - 39 patients with diabetes mellitus-2 with manifestations of DG. The control group consisted of 30 EHP. The lipid spectrum of the blood was studied by the content in the blood of total lipids, total cholesterol (cholesterol), triacylglycerols (TG), low lipoproteins (LDL), very low (VLDL) and high density (HDL) using kits from the company "Danish Ltd." (Lviv).

**Results and discussion.** The analysis of the conducted researches showed that patients of the 1st group had an increase of level of the general lipids of blood on the average in 1,4 times ( $p < 0,05$ ) in comparison with EHP. Hyperlipidemia was recorded in patients of group 1A, which exceeded the indicator in the control by 1.5 times ( $p < 0.05$ ) and probably differed from the indicator in patients of group 1A. Patients of the 2nd group had a probable increase in the level of total lipids in 1.6 times in comparison with PZO, and in patients of the 2nd group had an increase in the average blood content of total lipids in 1.8 times ( $p < 0.05$ ). with the presence of a probable intergroup difference. The study of the level of total cholesterol in the blood on an empty stomach revealed significant hypercholesterolemia in all comparison groups ( $p < 0.05$ ), which in the 1st group exceeded the level of PZO by 1.2 times ( $p < 0.05$ ), in patients in group 1A - in 1.3 times ( $p < 0.05$ ), in patients of the 2nd group - 1.6 times ( $p < 0.05$ ), and in patients of the 2nd group - 1.8 times ( $p < 0.05$ ) with the presence of a probable intergroup difference between groups 2 and 2A ( $p < 0,05$ ). Similar changes were recorded in both groups with respect to TG levels in blood, which exceeded the norm by 1.5 and 1.6 times in patients 1 and 1A, respectively, and 1.8 and 2.0 times in patients 2 ( $p < 0.05$ ) and 2A groups ( $p < 0.05$ ), accordingly. The difference was significant only in patients of groups 2 and 2A ( $p < 0.05$ ).

The obtained data indicate a close correlation between the indicators of LDL in the blood and the histopathological index of capillarospasm (IR) GM ( $r = 0.657$ ,  $p < 0.05$ ), LDL and the number of obliterated capillaries (GM) per unit area of SOS. ( $r = 0.745$ ,  $p < 0.05$ ), the content of cholesterol in the blood and the index of apoptosis of the epithelium (IAE) of the GM ( $r = 0.751$ ,  $p < 0.05$ ), which indicates the interdependence of dyslipidemia with ischemic and dystrophic changes in the epithelium of the GM.

At the same time, the level of antiatherogenic lipoproteins - HDL of patients of the 1st group was probably reduced by 17.1% ( $p < 0.05$ ) compared with the PZO, in patients of the 1A group was lower by 25.7% ( $p < 0, 05$ ), in patients of the 2nd group - by 23.6% ( $p < 0.05$ ), the maximum decrease was observed in patients of the 2nd group - by 37.1% ( $p < 0.05$ ) with a probable difference between the indicators in

compared groups ( $p < 0.05$ ).

**Conclusions:** Thus, supracardial hyperlipidemia (within 40-50% ( $p < 0.05$ )), dyslipidemia: a probable increase in blood lipids due to an increase in the proportion of LDL (within 30 -40% ( $p < 0.05$ )) and a decrease in the content of HDL in the blood (20-25% ( $p < 0.05$ )), with a probable increase in the atherogenic factor of the blood are metabolic preconditions for the development of DH in patients with diabetes mellitus 1. Patients of the 2nd group had an even more unfavorable metabolic situation, which became a prerequisite for the development of diabetic gastropathy, which consists in significant dyslipidemia, an increase in the concentration of total cholesterol (1.6-1.8 times ( $p < 0.05$ )), triacylglycerols (1.8-2.0 times ( $p < 0.05$ )), LDL (1.6-1.8 times ( $p < 0.05$ )) and a decrease in the proportion of antiatherogenic HDL (within 25-35% ( $p < 0.05$ )) with a probable increase in the coefficient of atherogenicity of the blood.