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ASSESSMENT OF METABOLIC PREREQUISITES IN PATIENTS WITH NON-ALCOHOLIC STEATOHEPATITIS ON THE BACKGROUND OF TYPE 2 DIABETES MELLITUS DEPENDING ON THE STAGE OF DIABETIC KIDNEY DISEASE

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Today non-alcoholic hepatic steatosis and non-alcoholic steatohepatitis (NASH) are considered the most common liver pathology, which in developed countries is observed in 20-30% of the adult population. It has been proven that the most common cause of NASH is obesity and type 2 diabetes mellitus (DM2). Diabetic nephropathy (DN) - a severe complication of diabetes is one of the leading causes of end-stage renal disease in industrialized countries.

The main pathogenetic basis of NASH on the background of DM2 is a disturbance of the sensitivity of insulin receptors to membranes of insulin-sensitive organs (liver and skeletal muscle) to the hormone, disorders of transport and utilization of glucose from the systemic circulation with the formation of a deficiency of all glycogen. type of metabolism in a healthy body.

The objective of the study was to examine the interaction of changes in the degree of IR and insulin sensitivity, the degree of glycosylation of hemoglobin on the clinical course of NASH on the background of diabetes mellitus depending on the presence of diabetic kidney disease (DKD) and its stage. 108 patients with NASH with comorbid diabetes mellitus² were examined. The average age of patients (58.2 ± 6.1) years. There were 63 women (58.3%) and 45 men (41.7%). Depending on the presence of DKD, 4 groups of patients were formed, which were randomized by age, sex, activity of cytolytic syndrome of NASH depending on the stage of DKD. Group 1 - NASH with DM2 without DKD, Group 2 - NASH with DM2 with DKD I-II st., Group 3 - NASH with DM2 with DKD III st., Group 4 - NASH with DM2 with DKD IV st. The state of carbohydrate metabolism was determined by the level of fasting blood glucose and blood glucose 2 hours after a meal (postprandial (p/p) glucose) by glucose oxidase method; fasting insulin content (DRG System) by enzyme-linked immunosorbent assay (ELISA). The degree of IR was determined by the value of the body mass index (BMI): $\text{body weight (kg)}/\text{height}^2 \text{ (m)}$, the HOMA-IR index and the tissue sensitivity index of the Great Dane insulin (S) (DR Matthews et al.), which was calculated using the HOMA2 program Calculator Version 2.2 Diabetes Trials Unit University of Oxford (Great Britain).

The results of glycemia, insulinemia and IR indices in patients with NASH with diabetes mellitus². The analysis of studies showed that patients of all groups found a significant probable increase in fasting glycemia: in group 1 - 1.6 times, in 2 - in 1.8 times, in group 3 - 2.5 times and in group 4 - 2.7 times ($p < 0.05$) compared to the indicator in PHP. Examination of the insulin content in the blood on an empty stomach revealed probable hyperinsulinemia, which in patients of the 1st group exceeded the indicator in the group of PHP by 1.9 times, in patients of the 2nd group - by 2.4 times, by the 3rd group - by 2.9 times and the 4th group - 3.3 times ($p < 0.05$). In particular, the violation of peripheral tissue sensitivity to insulin in patients with NASH and diabetes mellitus indicates a probable increase in the HOMA IR index (respectively in groups 1, 2, 3 and 4 - 2.2 times, 2.7, 3.5 and 4.0 times ($p < 0.05$)), as well as an adequate decrease in S ($p < 0.05$) with a significant difference between indicators 1, 2 and 3, 4 groups ($p < 0.05$). At the same time, there was no difference between the indicator of another marker of IR - BMI in patients of different groups ($p > 0.05$), but the indicator in all groups of patients exceeded the data in PHP by 1.3 times ($p < 0.05$).

The metabolic prerequisites for the development of NASH on the background of diabetes mellitus are probable fasting and postprandial hyperglycemia, hyperinsulinemia, tissue IR in comparison with healthy individuals.