

THE INTERACTION WITH LIPID EXCHANGE AND COMPONENTS OF THE INTERCELLULAR MATRIX IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AND TYPE 2 DIABETES MELLITUS

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The aim: to study the relationship between the components of the intercellular matrix and lipid metabolism in patients with acute myocardial infarction and type 2 diabetes.

Materials and methods of research: the study was examined 110 patients, who were on stationary treatment in the Kharkiv National Clinical Hospital № 27 (Clinical Base of the Department of Internal Medicine No. 2, Clinical Immunology and Allergology of the Kharkiv National Medical University) and in the first cardiology department of the Central Clinical Hospital of Ukrzaliznytsia. All patients were divided into groups: the main group was 70 patients with acute myocardial infarction (AMI) with concomitant diabetes mellitus (DM) type 2; the comparative group - 40 patients with a type 2 diabetes without DM; the control group - 20 people. The control group consisted of practically healthy individuals. The immune enzyme method were determined the content of matrix metalloproteinase-13 (MMP-13) using a set of human MMP-13 reagents (RayBiotech, Norcross, USA), a tissue inhibitor of metalloproteinase-4 (TIMP-4) using a set of human TIMP-4 reagents (R & D Systems, Minneapolis, USA). Indicators of lipid profile were determined by standard biochemical methods. Statistical computer processing of results was performed using the Microsoft Office Excel 2010 and Statistica 6.0 software. Correlation coefficient of Spirman was used to establish correlation relationships.

Research results: patients with type 2 diabetes mellitus and type 2 diabetes have a significant association between high-density lipoproteins - $r = -0.31$ ($p < 0.05$) and MMP-13; between the coefficient of atherogeny - $r = 0.31$ and MMP-13 ($p < 0.05$). Patients with GI and DM type 2 have a direct relationship between TIMP-4 and very low density lipoprotein ($r = 0.59$ ($p < 0.05$)).

Conclusions: the changes in the lipidogram in conditions of elevated levels of the components of the intercellular matrix can lead to instability of the atherosclerotic plaque and, as a consequence, the development of acute myocardial infarction.