ISIC-2022 International Scientific Interdisciplinary Conference

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TITIN AS A PREDICTOR OF THE COMORBID COURSE OF CORONARY ARTERY DISEASE AND TYPE 2 DIABETES MELITUS

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Introduction: Type 2 diabetes mellitus (T2DM) is pathogenetically characterized by insulin resistance. Insulin has a dual effect on coronary blood flow (regulates vasoconstriction and vasodilatation), therefore quite often T2DM provokes the development of chronic insufficiency of coronary blood flow and provokes the development of diastolic dysfunction, which in most cases comorbidly aggravates T2DM.

Titin is a giant sarcomeric protein responsible for cardiomyocyte stiffness and cardiac stress sensing. Dysregulation of taitin is closely related to various cardiovascular disorders, therefore, determination of taitin levels in the blood serum of patients with T2DM and coronary artery disease (CAD) with the study of associations with epidemiological and clinical anamnestic characteristics of such patients is a very relevant task.

Objective: Determine probable associations of clinical and anamnestic characteristics of patients with comorbidity of T2DM and coronary artery disease.

Materials and methods: 126 patients were included into the study. There were 36 patients in the main group (isolated CAD) (21 (58.3%) men and 15 (41.7%) women); in the comparison group (CAD+T2DM) — 70 patients (28 (40.0%) men and 42 (60.0%) women). In the control group (n = 20) there were 11 (55.0%) men and 9 (45.0%) women.

The diagnosis of CAD and T2DM was made in accordance with the current orders of the Ministry of Health of Ukraine. To determine the level of titin, an immunoenzymatic method was chosen using a commercial test system manufactured by the company "Human SORT 1 ELISA Kit" (USA). Lipidogram indicators were determined by the enzymatic method according to the standard biochemical method.

Results: According to the method of simultaneous inclusion, reliable predictors of comorbidity of T2DM in patients with coronary artery disease determined titin levels

(odds ratio (OR) = 0.001 [95.0% confidence interval (CI) 0.001–0.105], p = 0.021); stage I and II hypertension (respectively, HR = 28.993 [95.0% CI 1.595–526.940], p = 0.023 and HR = 19.050 [95.0% CI 1.078–336.620], p = 0.044); the presence of left ventricular (LV) hypertrophy (LV = 3.169 [95.0% CI 1.103–3.108], p = 0.032); levels of very low-density lipoprotein cholesterol (VLDL-C) (OR = 49.032 [95.0% CI 4.155–578.644], p = 0.022); the presence of angina pectoris during significant exercise (OR = 6.199 [95.0% CI 1.129–34.039], p = 0.036).

These results indicated excessive compensatory activation of the β-adrenergic system, which provokes an increase in passive stiffness of the myocardium during the progression of heart failure (HF).

Conclusions: According to the obtained results, the comorbid course of coronary artery disease and T2DM is associated with a significant decrease in titin levels, which pathogenetically can be an early predictor of abnormalities in the morphology, contractile and dilatation function of the heart, and (as a result) the development of significant HF.

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PRECLINICAL STUDY OF GASTROPROTECTIVE ACTION OF CRYOPRESERVED PLACENTA EXTRACT

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Treatment and prevention of peptic ulcer of the stomach is not only medical but also social problem. As a potential gastroprotective agent, our attention was drawn to the cryopreserved extract of placenta (CEP), because the literature convincingly demonstrated that this cryoextract eliminates the ulcerogenic action of non-steroidal anti-inflammatory drugs, which has a mechanism similar to peptic ulcer disease. The aim is to conduct a comparative assessment of the severity of antiulcer activity of CEP in prophylactic, therapeutic and therapeutic-prophylactic regimens for use in the model of ethanol-prednisolone gastric lesions.