IL-1 α content analysis revealed its significant predominance in group 2 patients (46,94±5,95 vs 22,43±3,41 pg/ml (group 1), p<0,01). IL-6 level was markedly higher in group 2 patients as well (51,63+7,86 vs 16,84+3,94 pg/ml, p<0,01), and level of anti-inflammatory cytokine IL-10 was some less in group 2 patients comparing group 1 (2,45±0,51 vs 4,03±0,73 pg/ml, p>0,05).

[illegible] (TNF) and neopterine (Np) levels analysis in groups indicates significant [illegible] for TNF (p<0,01) and 24,28±4,32 vs 15,08±1,76 nmol/l for Np (p<0,05).

Elder patients age, higher class of ALVF, presence of DM and CHF, anterior loc[illegible] obesity, EF low then 40% are independent predictors of lethal event development in pa[illegible] Besides, increase in pro-inflammatory cytokines level (IL-1α, IL-6, TNF and Np) paralle[illegible] results in favor of increase of lethal event onset probability in the mentioned category of patients.

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CHANGES OF THE IMMUNE DEFENCE IN DIABETIC PATIENTS WITH PYOINFLAMMATORY PROCESSES

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The immune system disorders in diabetic patients lead to a significant decrease in non-specific and specific immune antiinfectious defense by inhibiting phagocytic function of polymorphonuclear leukocytes, lowering of compliment system activity, lyzocim, interferons, bactericide activity of blood serum.

Diabetic patients with pyoinflammatory processes treated by traditional methods (n=40); diabetic patients with pyoinflammatory processes treated by ozonotherapy along with traditional treatment (n=53). The obtained results confirm changes in the absolute and relative number of immune cells in the peripheral blood of DM patients associated with pyoinflammatory processes. A relative number of lymphocytes decreases in these patients, at the same time a tendency to growth in the absolute number of the total pool of lymphocytes is formed. The research of the immune disorders degree confirmed that therapeutic measures, including ozonotherapy, against pyoinflammatory processes in patients with DM show their effectiveness. On admission 65,0% of patients were diagnosed with the I-II degree of immune disorders, which required immunorehabilitation; after pyoinflammatory processes therapy only 55,0% of diabetic patients were left. Special efficiency is shown in the III stage of immune disorders.

Pyoinflammatory processes in patients with diabetes occur on the background of decrease in the appropriate number of lymphocytes; increase in the absolute and relative number of monocytes, the absolute number of leukocytes due to the increase in the relative amount of neutrophilic polymorphonuclear leukocytes, as well as decrease in the absolute number of eosinophils, erythrocytes and hemoglobin.

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METFORMIN IMPROVES ENDOTHELIAL VASCULAR REACTIVITY IN FIRST-DEGREE RELATIVES OF TYPE 2 DIABETIC PATIENTS

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Endothelial dysfunction is an early marker of atherosclerosis seen in type 2 diabetic subjects. Metformin is commonly used in the treatment of type 2 diabetes and has besides hypoglycemic, a known vascular protective effect. We aimed to investigate the vascular effects of metformin in first-degree relatives with metabolic syndrome of type 2 diabetic patients.

The study included 43 subjects (age 38.3 ± 7.6 years and BMI 36.3 ± 5.2 kg/m2), who were first-degree relatives of type 2 diabetic patients and who had metabolic syndrome and normal glucose tolerance. The subjects were randomly assigned 1:1 in a double-blind fashion to receive placebo (n = 13) or metformin (n = 30). Endothelial function was assessed by venous occlusion plethysmography, measuring forearm blood flow (FBF) and vascular resistance responses to three intra-arterial infusions of endothelium-dependent (acetylcholine 7.5, 15, and 30 μg/min) and independent (sodium nitroprusside 2, 4, and 8 μg/min) vasodilators. Weight, BMI, systolic and diastolic blood pressure, waist, and laboratory parameters (lipid profile and fasting plasma glucose [FPG]) were assessed before and after treatment.

The metformin and placebo groups did not differ in anthropometric, clinical, laboratory, and vascular measurements at the beginning of the research. The metformin group had decreased weight, BMI, systolic blood pressure, and FPG and improved lipid profile. Endothelium-dependent FBF responses were also improved, without any effect on endothelium-independent responses. There was no correlation between the improvement on FBF responses and the observed changes on anthropometric, clinical and laboratory parameters.

We concluded that metformin improved vascular endothelial reactivity in first-degree relatives with metabolic syndrome of type 2 diabetic patients, regardless of its known antihyperglycemic effects. Accelerated atherosclerosis seen in type 2 diabetes raised the question about pathogenetic factors that initiate the development of vascular disorders in the pre-diabetic population. Metabolic syndrome, a pre-diabetic state, includes a number of cardiovascular risk factors such as abdominal obesity, dyslipidemia, hypertension, impaired glucose tolerance, and insulin resistance.