

FEATURES OF PROINFLAMMATORY CYTOKINES IN PATIENTS WITH VARIOUS VARIANTS OF CORONARY HEART DISEASE

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Introduction

The evidence of the pathogenetic role of cytokines in atherogenesis is growing. The results of our study showed that the levels of IL-10, IL-6 were significantly higher in the group of patients with acute myocardial infarction compared with similar data in the group of patients with stable angina pectoris. The levels of IL-2, IL-8 and TNF- α in the group of patients with acute myocardial infarction were significantly lower than in the group of patients with stable angina. In the group of patients with progressive angina, the level of IL-8 was significantly lower than in the group with stable angina. An increase in the degree of atherosclerotic lesions of the coronary bed was associated with an increase in the levels of IL-1P, IL-6, IL-8, TNF- α and a decrease in the level of IL-2. Thus, the data obtained indicate an abnormal cytokine profile in large patients with coronary disease. The use of the definition of the main proinflammatory cytokines makes it possible to expand the range of diagnostic methods for predicting the clinical course and treatment results of patients with various forms of coronary heart disease. The data obtained provide grounds for further clinical studies in this direction.

Objective: Evaluation of the effect of certain cytokines (IL-1 β , IL-2, IL-6, IL-8, TNF- α) during the atherosclerotic process in patients with various forms of coronary heart disease: myocardial infarction, stable and progressive angina pectoris.

Materials and methods:

70 patients (65 men and 5 women) aged 40-68 years (on average 50+6 years) who were treated at the Samarkand branch of the Republican Scientific Center of Emergency Medical Care for coronary heart disease were examined. The duration of the disease ranged from 2 months to 15 years (on average 6 + 4.2 years). Of these, 50 patients (group 1) had angina pectoris of grades 1-4 (according to the classification of the Canadian Association of Cardiologists), 10 people (group 2) had progressive angina pectoris, 10 people (group 3) had acute myocardial infarction.

Among the patients of the first group, angina pectoris of functional class 1 (FC) was detected in 5 patients, 2 FC - in 20 patients, 3 FC - in 20 patients, 4 FC - in 5 patients. Large-focal postinfarction cardiosclerosis was in 20 patients. In 28 cases, there was a combination of coronary heart disease with hypertension; in 7 patients, the phenomena of circulatory insufficiency of stage 2 were detected.

In the second group of patients diagnosed with progressive angina pectoris, signs of impaired coronary blood flow were recorded earlier (2 patients had stable angina pectoris of 2 FC, 4 patients - FC, 4 patients - 4 FC), tsostipfarctic cardiosclerosis was detected in 5 cases, hypertension was accompanied by coronary artery disease in 3 patients.

In the third group, 7 patients had a large-focal myocardial infarction, and 3 had a small-focal myocardial infarction, 2 to 10 hours old from the onset of the first signs of the disease. Coronary atherosclerosis anamnestic was detected in all patients of this group, in 4 cases myocardial infarction was repeated. The course of acute infarction was complicated in 8 patients (3 cases of cardiogenic shock, 2 cases of recurrent ventricular tachycardia, 1 case of supraventricular tachycardia paroxysm, 6 cases of stage 2 circulatory insufficiency). Hypertension was combined with coronary heart disease in 4 patients.

Results and discussions:

The study of the content of cytokines IL-2, IL-8 and TNF- α in patients with coronary heart disease revealed an inverse relationship: lower cytokine values were recorded with myocardial infarction, and high with stable angina. The level of IL-2

in the first group was 9.1 ± 1.6 pg/ml, and in the group of patients with myocardial infarction - 0.81 ± 0.57 pg/ml ($p < 0.01$); the level of IL-8 in the group of patients with stable angina was 94.2 ± 27.6 pg/ml, and in the groups of patients with progressive angina and myocardial infarction- 20.03 ± 7.4 ($p < 0.01$) and 22.47 ± 4.8 pg/ml ($p < 0.05$), respectively. TNF- α values were almost three times higher in the group of patients with stable angina (0.23 ± 0.06 pg/ml) compared with its level in patients with myocardial infarction - 0.08 ± 0.03 pg/ml ($p < 0.05$).

A repeated study of the cytokine content, performed two weeks later on the background of treatment, revealed a tendency to decrease the level of IL-1 β from 0.45 ± 0.08 to 0.24 ± 0.07 pg/ml and a significant decrease. During the treatment period, there was an increase in IL-8 content in patients with myocardial infarction from 22.5 ± 4.8 to 69.8 ± 18.8 pg/ml ($p < 0.01$).

Conclusions.

Summarizing the data obtained, it can be assumed that cytokines are actively involved in the pathogenesis of coronary atherosclerosis. The content of cytokines such as IL-1 β and IL-6 in the blood increases already in the first hours of myocardial infarction, and IL-8 gradually, reaching maximum values by the end of 2 weeks. Cytokines IL-2 and TNF- α practically do not react to the development of acute coronary syndrome, their values remained stably low during the acute phase of myocardial infarction.

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