The nature of pentraxin-3 level changes in patients with coronary artery disease and diabetes melitus type 2

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Introduction: the coronary artery disease (CAD) is one of the most frequent reasons of mortality of the population in the developed countries of the world. Important factor of risk at CAD is the diabetes mellitus (DM). CAD in patients with DM type 2 meets by 2-4 times more often than among people of the same age without diabetes. The main reason of an invalidization and mortality in patients with DM type 2 are cardiovascular diseases in which development the leading value has CAD. It is necessary to notice that 3 of 4 patients with DM type 2 die of the reasons connected with atherosclerosis. One of pathogenetic mechanisms of atherosclerosis is generalized or chronic inflammation. One of new immune inflammation markers is pentraxin-3 (PTX-3) which is expressed excessively in endotelial and smooth muscle cells, monocytes and macrophages which are components of a vascular wall and an atherosclerotic plaque. Its role in atherosclerosis is still finally not found out.

Purpose: to estimate the nature of changes of pentraxin-3 level in patients with coronary artery disease depending on presence of diabetes mellitus type 2.

Materials and methods: we investigated one of new markers of immune inflammation – pentraxin-3. The comprehensive examination of 110 patients with CAD was conducted by us. Patients were distributed on groups depending on existence of DM type 2: to the first group (n = 75) patients with CAD and DM type 2 entered, the group of comparison was made by 35 patients with CAD without diabetes. To the control group 25 almost healthy faces entered.

Results: as a result of our researches possibly increase in the PTX-3 level in all patients with CAD in comparison with group of control is established. So, the PTX-3 level in control group was 1.18±0.54 ng/ml that is 65.40% less, than at patients on CAD where the value of this indicator equaled 3.41±0.68 ng/ml (r<0.05). At patients in conditions interfaced the course of CAD and DM type 2 the PTX-3 level is 80.14% higher, than at the people of control group and makes 5.94 0.57 ng/ml (r<0.05). Comparative analysis, that was carried out, showed probable increase of the PTX- 3 level by 57.41% in patients with CAD on condition of existence of DM type 2 certifying activation incendiary to a marker of PTX-3 which can be considered as a interfaced current predictor.

Conclusions: thus, in patients with coronary artery disease with the accompanying diabetes mellitus type 2 there were established more higher levels to a pentraxin-3 (5.94±0.57 ng/ml), than in patients without diabetes mellitus type 2 (3.41±0.68 ng/ml) and control group (1.18±0.54 ng/ml) that demonstrates activation of the immunoinflamative link.