

## IMMUNOLOGICAL MARKERS AT DIFFERENT STAGES OF THE CARDIOVASCULAR CONTINUUM

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<https://doi.org/10.5281/zenodo.7505872>

The concept of the “cardiovascular continuum” has existed for several decades and has become a kind of symbol of the “route”, the inevitability of the development of non-infectious somatic pathology from its first functional changes to severe fatal complications [1].

The continuum also seems to be a symbol of the sequence and continuity of pathological changes, their interrelation, and the multitude of vicious circles that ultimately ensure the disease itself. It includes both the action of risk factors (FR) and vicious circles that close when FR is finally realized in pathological processes [2].

**The purpose of scientific work:** Improvement of diagnostic methods for remodeling the left ventricle of the heart, taking into account immuno-inflammatory markers in syntropia.

### Materials and methods

240 patients with middle-aged and elderly cardiovascular diseases were examined. Of these, 120 are with arterial hypertension, 120 are patients with arterial hypertension and ischemic heart disease. The control group consisted of 60 practically healthy middle-aged and elderly people. - clinical methods (examination and examination of the studied contingent);

In the study, the following methods were applied: laboratory and instrumental methods (functional, (ECG, EchoCG), biochemical methods, immunological examination (endothelial growth factor-VEGF, fibroblast growth factor-1, insulin-like factor), statistical methods (the use of special computer programs for biomedical research).

**The results of the study** In the course of studying the peculiarities of the course of hypertension and coronary heart disease, very interesting facts were obtained, indicating the relationship of the mechanism of development of hypertension with existing metabolic disorders of other substances in the body. In particular, the relationship with hormonal, biochemical and cytokine status.

In our studies, a statistically significant increase in the level of TGF- $\beta$ 1 was found to  $22 \pm 1.7$  pg/ml in group 1 patients and to  $15.5 \pm 1.7$  pg/ml in group 2 patients versus control values -  $10.0 \pm 1.5$  pg/ml ( $p < 0.05$ ).

The analysis results showed a threat to the development of cardiovascular diseases and fibrosis, hypertrophy of the left ventricle in hypertension.

At the same time, the concentration of TGF- $\beta$ 1 does not depend on the severity of hypertension, since the level of TGF- $\beta$ 1 is more elevated with grade 1 hypertension than with grade 2 hypertension.

Consequently, the course and outcome of hypertension depends on concomitant diseases and metabolic status.

To predict the development of complications of hypertension, we also studied the concentration of VEGF, which allowed us to establish its increase by 3.5 times in patients of group 1- $267 \pm 1.25$  pg/ml and 2.8 times in patients of group 2- $214 \pm 1.18$  pg/ml relative to the control indicators- $75.4 \pm 2.2$  pg/ml. Taking into account the above mentioned, a study of VEGF in dynamics is recommended for the prevention of cerebral complications of coronary heart disease and hypertension.

### **Conclusion**

An indicator of the severity of endothelial dysfunction in hypertension is the concentration of VEGF with threshold values of  $-182.5$  pg/ml. TGF- $\beta$ 1, urea and creatinine are indicators of the severity of hypertension. The threshold value of TGF- $\beta$ 1 in CHD is  $16.3-36.7$  pg/ml. An indicator of the risk of developing cardiac and cerebral complications in grade 1 hypertension is IGF-I in the blood with a threshold value of IGF-1- $123,0-133$ ,  $2$  ng/ml, TGF- $\beta$ 1 -  $22.0-25.3$  pg/ml.

### **Foydalanilgan adabiyotlar:**

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