MECHANICAL CHARACTERISTICS OF VESSELS AND PROINFLAMMATORY CYTOKINES IN PATIENTS WITH RHEUMATOID ARTHRITIS AND ARTERIAL HYPERTENSION

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The cardiovascular pathology develops much earlier in patients with the rheumatoid arthritis (RA) than in the population in general, which is determined to a large extent by an accelerated development of the atherosclerotic vascular disease. Nowadays, it is believed that the advance of atherosclerosis is caused mainly by the lipid metabolism disorders and the vessel wall inflammation, also due to chronic autoimmune disease. In this respect, it is worthy of analyzing how the level of proinflammatory cytokines correlates with disorders of the mechanical properties of the vascular bed under condition of RA associated with arterial hypertension (AH).

The aim of the study: to determine the serum level of proinflammatory cytokines (IL-1β, TNF-α, IL-6) and the arterial elasticity in patients with the AH.

Materials and conclusions. During the study, 84 patients (female), who had AH stage 1-3 against the background of an advanced RA (seropositive, stage II), were observed. The arterial hypertension was diagnosed using criteria suggested by the Russian Scientific Society of Cardiologists, 2008. The average age of the patients was 51,3 ± 4,5 years old. In all the patients the AH was diagnosed after the RA development. The control group consisted of 18 healthy donors. The level of cytokines in blood serum was measured by the enzyme immunoassay method («Cytokines LLC», Russia). The mechanical properties of the vessel wall were assessed using arterial pressure monitor «Petr Telegin», Russia.

Results and discussion. In patients with the AH on the background of the RA, we could identify a reliable increase of the proinflammatory cytokine content compared with the control group. At the same time, it should be mentioned that the highest concentrations of IL-1β (241,5 ± 14,3 pg/ml, $p < 0,001$), IL-6 (297,4 ± 17,4 pg/ml, $p < 0,001$), TNF-α (321,8 ± 16,4 pg/ml, $p < 0,001$) was registered in patients with the AH stage 3, which reliably differed from the respective values of the RA patients with the AH stage 1 and 2. In patients with the RA accompanied by the AH, a higher rigidity of vessel wall was observed, which was evident through higher pulse wave velocity (PWV) and augmentation index (A|x). The revealed disturbances in the mechanical characteristics of arterial wall were apparent at the most in the RA patients with the AH stage 3. Their PWV was 12,5% ($p < 0,05$) higher than in patients with the AH stage 2, and 28,6% ($p < 0,001$) higher than the respective value in the RA patients with the AH stage 1. The AIx was also higher, its maximal value (–9,8 ± 1,1) was registered in the RA patients with the AH stage 3. We found a reliable direct correlation between the level of IL-1β, IL-6, TNF-α and the PWV, AIx under condition of the RA-HA combination.

To sum up, the conducted research ascertained that the number of proinflammatory cytokines grows along with the AH severity under condition of RA. The revealed correlations prove indirectly the pathogenic role of proinflammatory cytokines in advance of disorders of the vessel wall mechanical properties in the RA patients with the AH.

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MODERN NECHNOLOGIES OF INFERTILITY TREATMENT IN WOMEN WITH OPERATED OVARIES

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Unfavorable demographic situation, which has been formed in Russia, is nowadays examined as serious problem for the public health, society and country. Nowadays in our country there were registered more than 5 million infertile married couples, from them the majority needs the cure with the methods of auxiliary reproductive technologies (ART).

The aim of research – defining of the effectiveness of ART methods of women of reproductive age with operative intervention at the ovaries.

Materials and methods. Into clinical research there were included 975 sick people with the new formations of ovaries, which are at the treatment in the department of VRT CCH RAS city of Moscow and gynaecological departments of city of Izhevsk UR. The average age of sick people was 32,33±9,73 years (DI 95% 31,72; 32,04; m=0,31.