

## CLINICAL COURSE RHEUMATOID ARTHRITIS DEPENDING ON DAS28 ACTIVITY AND LEVELS OF TNF-A AND IL-6

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Rheumatoid arthritis (RA) is a systemic autoimmune disease with chronic progressive inflammation that leads to structural joint damage and disability. The pathogenesis is based on cytokine-mediated mechanisms, including the hyperproduction of Tumor necrosis factor alpha (TNF- $\alpha$ ) and Interleukin 6 (IL-6), which determine the disease's activity. A key tool for objectively assessing the severity of RA is the Disease Activity Score 28 (DAS28) activity index.

**Purpose of the research.** Assess the clinical course of RA depending on the activity of DAS28 and the levels of TNF- $\alpha$  and IL-6 in blood serum.

**Materials and methods.** The study included 60 patients with a reliable diagnosis of RA according to the criteria of the American College of Rheumatology / European Alliance of Associations for Rheumatology. The average age was  $51 \pm 11$  years; women - 83%. TNF- $\alpha$  and IL-6 levels were determined by ELISA. Disease activity was assessed according to DAS28. Patients are distributed according to disease activity: Low activity (DAS28  $\leq 3.2$ ) - n=15, moderate activity (DAS28 3.2-5.1) - n=25, high activity (DAS28  $> 5.1$ ) - n=20.

**Results.** The average level of TNF- $\alpha$ : with low activity -  $12.4 \pm 3.2$  pg/ml; with moderate activity -  $19.6 \pm 4.8$  pg/ml; with high activity -  $33.2 \pm 6.5$  pg/ml ( $p < 0.001$ ). The average level of IL-6: at low activity -  $9.3 \pm 2.7$  pg/ml; at moderate activity -  $15.8 \pm 4.1$  pg/ml; at high activity -  $28.5 \pm 5.9$  pg/ml ( $p < 0.001$ ). TNF- $\alpha$  and IL-6 levels were positively correlated with DAS28 ( $r = 0.58$  and  $r = 0.64$ , respectively;  $p < 0.001$ ). High levels of cytokines were associated with more pronounced pain syndrome, morning stiffness, and radiological progression. Patients with high activity had significantly higher CRP and ESR ( $p < 0.01$ ).

**Conclusion.** Elevated levels of TNF- $\alpha$  and IL-6 are closely related to RA activity according to DAS28 and reflect the intensity of the inflammatory process. Monitoring cytokines in conjunction with clinical activity assessment allows for more accurate prediction and optimization of treatment tactics.