CLINICAL COURSE RHEUMATOID ARTHRITIS DEPENDING ON BLOOD LEVELS OF ADAMTS7

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Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by progressive inflammation of the synovial membrane and joint destruction. In recent years, biomarkers reflecting the pathogenetic mechanisms of the disease and the prognosis of its course have been actively studied. The ADAMTS7 enzyme (a disintegrin and metalloproteinase with thrombospondin motifs 7) is of particular interest, which participates in the remodeling of the extracellular matrix and the development of erosive joint changes. Elevated levels of ADAMTS7 may be associated with a more aggressive course of the disease.

Purpose of the research. To study the features of the clinical course of RA depending on the level of ADAMTS7 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 52±10 years; women - 82%. The determination of ADAMTS7 concentration was carried out by ELISA. Patients were divided into 2 groups: Group 1 (n=30) - low/moderate level of ADAMTS7, Group 2 (n=30) - high level of ADAMTS7.Clinical assessment included the DAS28, HAQ index, assessment of erosive changes according to radiography data, as well as laboratory indicators of inflammation activity (CRO, ESR).

Results. The average ADAMTS7 level in the 2nd group was 2.3 times higher than in the 1st group ($p < 0.001$). Patients with a high level of ADAMTS7 had higher disease activity: DAS28 = 5.9 ± 0.6 versus 4.3 ± 0.5 in group 1 ($p < 0.05$). The frequency of erosive arthritis was higher in the 2nd group - 76.7% versus 40.0% in the 1st group ($p < 0.01$). More pronounced functional disorders (HAQ ≥ 1.5) were noted in 63% of patients in group 2 versus 33% in group 1. High levels of ADAMTS7 positively correlated with ESR ($r = 0.46$; $p < 0.05$) and C-reactive protein ($r = 0.51$; $p < 0.05$).

Conclusion. An elevated level of ADAMTS7 is associated with higher clinical activity of RA, accelerated development of erosive changes and functional disorders. Determining the level of ADAMTS7 in blood serum can serve as a promising prognostic biomarker for the aggressive course of RA and be used for risk stratification and personalized therapy.