EVALUATING THE EFFICACY OF TREATMENT BASED ON ANNEXIN A1 (ANXA1) LEVELS IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH JAK INHIBITORS

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Abstract. Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory disease, for which early diagnosis, accurate assessment of disease activity, and prediction of treatment efficacy are among the urgent tasks of modern rheumatology. In recent years, Annexin A1 (ANXA1), an endogenous anti-inflammatory protein, has garnered significant interest as an important biomarker of the immune-inflammatory process. Specifically, evaluating changes in ANXA1 levels in patients with rheumatoid arthritis treated with JAK inhibitors allows for the early detection of treatment response, monitoring of disease activity, and prediction of therapeutic efficacy. Studying the correlation between ANXA1 levels and clinical and laboratory activity indices is crucial for selecting individualized treatment strategies, assessing the likelihood of achieving remission, and preventing disease exacerbation in patients receiving JAK inhibitors.

Keywords: Rheumatoid arthritis (RA), Annexin A1 (ANXA1), treatment efficacy, DAS28, disease-modifying antirheumatic drugs (DMARDs), Janus kinase (JAK) inhibitors.

Objective: To evaluate the role of ANXA1 in the exacerbation of the immune-inflammatory process in patients with rheumatoid arthritis, its significance in joint remodeling, and to improve therapeutic and prophylactic measures.

Research Method: During the study, 92 patients with a DAS28 index score > 3.2 were identified. To determine treatment efficacy, they were subsequently divided into a main group of 30 patients and a control group of 62 patients. Patients in the main group were prescribed standard therapy with disease-modifying antirheumatic drugs (DMARDs) (methotrexate at a dose of 15–25 mg per week, or leflunomide at 20 mg per day in cases of contraindications to methotrexate) in combination with the Janus kinase (JAK1/JAK2) inhibitor, baricitinib, administered orally at a dose of 4 mg per day. The treatment was observed for 52 weeks. Patients in the control group received standard therapy with DMARDs (methotrexate at a dose of 15–25 mg per week or leflunomide at 20 mg per day in cases of contraindications to methotrexate). The dynamics of the DAS28 index scores in patients from both study groups were analyzed after 52 weeks of treatment.

Results: The efficacy of treatment in patients with rheumatoid arthritis was evaluated based on the ACR50 and ACR70 criteria. According to the analysis, although a positive trend was observed in both groups at weeks 12, 26, and 52, these indicators were significantly higher in the main group of patients receiving baricitinib compared to the control group. Specifically, the ACR50 response in the main group was 49.7% at week 12, 65.9% at week 26, and 88.3% at week 52, while in the control group, the rates were 26.1%, 41.3%, and 54.5%, respectively. Similarly, the ACR70 indicator also showed a consistent increase in the main group, reaching 23.9% at week 12, 39.1% at week 26, and 60.9% at week 52. In the control group, these indicators were 22.1%, 36.8%, and 44.3%, respectively. In the main group, the use of baricitinib in combination with DMARDs resulted in an increase in the ANXA1 level from 7.60±0.24 ng/mL to 10.45±0.28 ng/mL. The absolute increase was 2.85 ng/mL, which was a 37.5% increase from the baseline value ($p<0.001$). In the control group, on standard DMARD therapy, the ANXA1 level increased from 7.60±0.24 ng/mL to 8.62±0.26 ng/mL. The average increase in the

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indicator was 1.02 ng/mL, corresponding to a 13.4% increase from the baseline value ($p<0.05$). The baseline DAS28 index score was 5.08±0.12 in both groups. In the main group, the use of baricitinib in combination with DMARDs resulted in a decrease in the DAS28 index from 5.08±0.12 points to 2.70±0.08 points. The absolute decrease was 2.38 points, representing a 46.9% reduction from the baseline value ($p<0.001$). In the control group, on standard DMARD therapy, the DAS28 index decreased from 4.95±0.12 points to 3.50±0.09 points. The average decrease in the index was 1.45 points, corresponding to a 31.1% decrease from the baseline value ($p<0.05$). An intergroup comparison at the end of 52 weeks revealed that the DAS28 score in the main group was statistically significantly lower than that of the control group ($p<0.05$).

Conclusions: In this real-world clinical study involving 108 patients with rheumatoid arthritis, it was found that the use of the JAK kinase inhibitor baricitinib, alongside standard disease-modifying antirheumatic drug (DMARD) therapy, led to the achievement of stable clinical remission (ACR50 and ACR70) and improved joint functionality. Furthermore, this treatment positively affects the quality of life, particularly the social, physical, and psychological aspects of health.

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