

Background: Behçet's disease (BD) is an immunoinflammatory disease characterized by recurrent oral aphthous ulcers, genital ulcers, and other clinical manifestations. Disease activity in Behçet's disease is difficult to determine due to a lack of laboratory markers that can reflect clinical activity; therefore, the search for new available markers is required. The neutrophil-lymphocyte ratio (NLR) and systemic immune-inflammation index (SII) are novel inflammatory markers.

The aim of the study is to evaluate the association between NLR, SII and disease activity and clinical features of BD.

Material and methods.

This study included 90 BD patients and 30 controls. The median age of patients was 32 years [26; 37], and the median disease duration was 11 years [5; 15]. The activity of BD was determined using the Behçet's disease current activity Form (BDCAF). High disease activity was defined as a BDCAF score ≥ 4 . NLR was calculated using the formula: neutrophils/lymphocytes. SII was calculated using the formula: neutrophils x platelets/lymphocytes. The upper limits of the NLR and SII were determined by the 95th percentile of healthy control values.

Results.

High NLR was found in 26 (29%) and SII in 18 (20%) of 90 patients with BD. Patients with high NLR were more likely to have pustulosis (OR = 6.35; 95% CI: 1.73-23.31, $p = 0.003$), a positive pathergy test (OR = 3.67; 95% CI: 1.13-11.96, $p = 0.035$), and high disease activity (OR = 13.095; 95% CI: 1.66-103.18, $p = 0.003$). Patients with high SII were more likely to have genital ulcers (OR = 6.57; 95% CI: 1.32-32.66, $p = 0.028$), a positive pathergy test (OR = 4.0; 95% CI: 1.16-13.74, $p = 0.048$), and high BD activity (OR = 7.48; 95% CI: 0.94-59.77, $p = 0.034$). NLR correlated with C-reactive protein (CRP) ($r_s = 0.42$, $p < 0.0001$), and erythrocyte sedimentation rate (ESR) ($r_s = 0.30$, $p = 0.004$). SII also correlated with CRP ($r_s = 0.47$, $p < 0.0001$), and ESR ($r_s = 0.39$, $p < 0.0001$).

Fig.1. Pustulosis



Fig.2. Positive pathergy test



Fig.3. Genital ulcers



Conclusion: high NLR and SII levels were associated with high clinical and laboratory activity of BD.