

**Background:** Behçet's disease (BD) is a chronic systemic vasculitis characterized by neutrophil activation and recurrent oral aphthous ulcers, genital ulcers, uveitis, and other clinical symptoms. Calprotectin (CLP) is a marker of neutrophil activation and NETosis. Currently, there is insufficient data on the association of CLP with clinical and laboratory manifestations of BD.

**Aim:** To study the relationship between high levels of CLP and manifestations of BD.

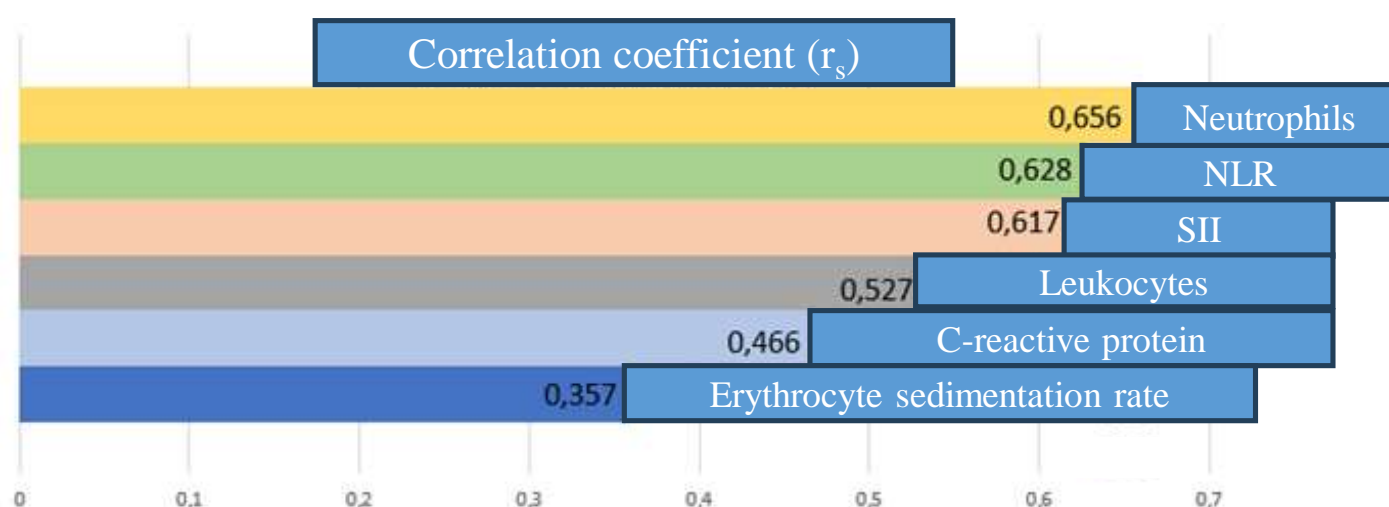
## Material and methods.

- This study included 90 BD patients and 30 healthy controls.
- The median age of patients was 32 years [26; 37], 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 BDCAF score  $\geq 4$ .
- CLP was measured in serum by enzyme-linked immunosorbent assay according to the manufacturer's protocol (Bulhmann Laboratories AG, Switzerland). The upper limit of the CLP was determined by the 95th percentile of healthy control values.

## Results.

Serum CLP levels were higher in patients with BD compared to healthy controls (4.08 [2.81; 7.25]  $\mu\text{g/mL}$  vs. 2.86 [2.15; 3.92]  $\mu\text{g/mL}$ ,  $p=0.003$ ). 23 (26%) of 90 patients with BD had elevated serum CLP levels. High CLP levels were associated with pustulosis (OR=3.41; 95% CI: 1.05-11.13,  $p=0.044$ ), arthritis (OR=13.89; 95% CI: 1.47-131.82,  $p=0.014$ ), uveitis (OR=4.74; 95% CI: 1.55-14.48,  $p=0.011$ ), and high disease activity (OR=3.195; 95% CI: 1.149-8.887,  $p=0.029$ ). CLP correlated with leukocyte count ( $r_s=0.527$ ,  $p<0.0001$ ), neutrophil count ( $r_s=0.656$ ,  $p<0.0001$ ), NLR ( $r_s=0.628$ ,  $p<0.0001$ ), SII ( $r_s=0.617$ ,  $p<0.0001$ ), erythrocyte sedimentation rate ( $r_s=0.357$ ,  $p=0.001$ ) and C-reactive protein ( $r_s=0.466$ ,  $p<0.0001$ ) in patients with BD (Fig.1).

**Fig.1. Correlation of calprotectin with laboratory parameters**



**Conclusion:** High levels of CLP were associated with the presence of pustulosis, arthritis, uveitis, and high overall clinical and laboratory activity of BD.