

**CLINICAL SIGNIFICANCE OF ERYTHROCYTE SEDIMENTATION RATE AS
A MARKER OF ISCHEMIC HEART DISEASE SEVERITY**

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Erythrocyte sedimentation rate (ESR) is a classic nonspecific marker of inflammation, reflecting changes in plasma proteins during the acute-phase response. In ischemic heart disease (IHD), ESR may reflect information about the degree of inflammatory activity, severity of atherosclerotic involvement and functional state of the myocardium. Unlike complex indices (neutrophil-to-lymphocyte ratio, NLR; systemic immune-inflammation index, SII), ESR does not depend on the ratio of individual cellular populations and reflects the systemic acute-phase response as a whole.

To study the features of ESR levels in patients with different clinical forms of IHD.

Data from 131 patients with different clinical forms of IHD who had ESR determined were analyzed. Patients were divided into three groups: stable angina (n=43), progressive angina (n=37) and STEMI (n=51). Patients having criteria (diseases) directly affecting ESR levels and capable of distorting the assessment of inflammatory activity in IHD were excluded from the study. Nonparametric methods were used: Kruskal-Wallis test, Mann-Whitney U-test, Spearman correlation and ROC analysis. Descriptive statistics are presented as median with interquartile range (Me [Q1; Q3]). $p < 0.05$ was considered statistically significant.

The median ESR in the population was 16.0 [9.0; 30.0] mm/h. The Kruskal-Wallis test revealed significant differences between the three forms of IHD ($H = 13.00$; $p < 0.001$): stable angina - 12.0 [7.5; 18.5] mm/h, progressive angina - 18.0 [12.0; 28.0] mm/h, STEMI - 23.5 [10.5; 42.8] mm/h. Pairwise comparisons: stable vs progressive ($p = 0.008$), stable vs STEMI ($p < 0.001$), progressive vs STEMI ($p = 0.149$). ROC analysis for differentiation of STEMI and stable angina: AUC = 0.695. At the threshold >18 mm/h, sensitivity was 60.8%, specificity - 74.4%.

The study showed that, the obtained results indicate that, ESR demonstrates a pronounced gradient dependence on the severity of the clinical form of IHD (stable $<$ progressive $<$ STEMI) increases from stable angina to progressive angina and STEMI (12.0 [7.5; 18.5] $\rightarrow$ 18.0 [12.0; 28.0] $\rightarrow$ 20.0 [10.0; 43.0] mm/h; $H = 13.00$; $p = 0.001$).