Abstract

BACKGROUND: Sarcoidosis is a multisystemic inflammatory granulomatous disease of unknown etiology. No suitable biomarkers are available to evaluate the prognosis of this disease, which still has an unpredictable clinical course. The aim of this study was to evaluate the potential clinical usefulness of hematologic markers.

MATERIALS AND METHODS: We investigated 172 subjects: 116 patients with sarcoidosis and 56 healthy individuals at Suleyman Demirel University and Dr. Suat Seren Chest Diseases and Thoracic Surgery Training Hospital. Complete blood count, demographics and pulmonary function test data from sarcoidosis patients between 2008 and 2013 were evaluated and collated retrospectively. The cut-off values were determined by calculating the neutrophil-to-lymphocyte ratio (NLR) and mean platelet volume (MPV) of the patients.

RESULTS: The cut-off values were determined as 2 and 8.95 for NLR and MPV, respectively. NLRs were significantly higher in sarcoidosis patients than in healthy controls ($P < 0.001$) and were directly correlated with erythrocyte sedimentation rate (ESR) levels ($R = 0.183, P = 0.017$). Receiver operator characteristic (ROC) curve analysis revealed a 0.83 [confidence interval (CI) 68.8%-88.4%] area under the curve, 80% sensitivity and 59% specificity at the cut-off of NLR. Higher NLRs ($\geq 2$) were detected in patients with sarcoidosis than in the control group ($P < 0.001$). Also, high NLRs were more frequent in patients with extrapulmonary involvement ($P = 0.031$). MPV values were not different between control and patient groups.

CONCLUSIONS: NLR may be a biomarker with good sensitivity that is easily detected in serum. It can be proposed in clinical practice to identify a patient's prognosis. However, large prospective studies are required to further demonstrate the prognostic significance of these values.

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