

DOI: 10.5152/TurkThoracJ.2019.30

[Abstract:0650] MS-037 [Accepted: Oral Presentation] [Asthma Allergy]

## Role of Systemic Immune-Inflammation Index in Asthma and NSAID Exacerbated Respiratory Disease

Tuba Erdoğan

Department of Chest Disease, Division of Immunology and Allergy, Eskişehir Osmangazi University School of Medicine, Eskişehir, Turkey

**Objectives:** Asthma is a heterogeneous disease with airway inflammation and has many phenotypes. There is a need for easily measurable biomarkers in the differentiation of phenotypes. Systemic immune-inflammation index (SII) has been studied in many malignancies and vasculitis as an important indicator of systemic inflammation and prognosis. The aim of this study is to test the usability of an easily calculated method like SII in the differentiation of asthma and NSAID-exacerbated respiratory disease (NERD).

**Methods:** The study included 105 patients (69 asthma, 36 NERD). SII calculated with neutrophil X platelet/lymphocyte number formulation. Neutrophil-lymphocyte (NL) and platelet-lymphocyte (PL) ratios were also calculated. Optimal cut-off value was calculated with ROC analysis. The major risk factors were determined by univariate and double logistic regression analysis (phased).

**Results:** There was no significant difference between the clinical features of the groups except for the history of urticaria. Patients with a SII value greater than 895.6 had a probability of being NERD with a sensitivity of 30.56%, and patients with a lower value had a probability of having an asthma with a sensitivity of 92.65%. Although this cut-off value is not so sensitive but it is a very specific test. In order to determine the risk factor affecting asthma type, risk factor could not be determined in logistic regression analysis with variables like ACT score, eosinophil level, total IgE level, N-L ratio, PL ratio and SII. The NL ratio was determined as the risk factor affecting the categorized SII (OR=264.2,%95 CI 9.9-7046.5, p=0.001).

**Conclusion:** This study is the first study that compare the systemic immune-inflammation index in asthma phenotypes. The fact that SII is below the cut-off value can help to exclude the diagnosis of NSAIDs exacerbated respiratory disease. There is a need for studies in which the number of patients is higher and different phenotypes are compared.

**Keywords:** Systemic immune-inflammation index, asthma, biomarker