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Soluble triggering receptor expressed on myelocytes as a biomarker in Lupus. Correlation with SLEDAI

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Introduction: Soluble Triggering Receptor Expressed on Myelocytes -1 (sTREM-1) is an innate immunity receptor which participates in infectious as well as aseptic inflammatory reactions. Its levels in serum indicate the magnitude of Systemic Inflammatory Reaction Syndrome (SIRS) and can be used to discriminate between infectious and non-infectious causes. Recently, the plasma level of soluble triggering receptor expressed on myeloid cells 1 (sTREM-1) has been proposed as a lupus biomarker, significantly correlated with disease activity.

Methods: 16 treatment naive SLE patients (mean age: 32±11 years, female/male ratio: 15:1) and 17 healthy individuals of the same age were included in the present study. The diagnosis of SLE was based on 2012 Systemic Lupus International Collaborating Clinics (SLICC) classification criteria. All patients were recruited from the clinical immunology outpatient clinic of the 2nd Department of Internal Medicine, Hippokraton Hospital of Thessaloniki, over a period of two years. We performed enzyme-linked immune sorbent assay in the serum by the commercially available kit (USCN Life Sciences) following the manufacturer's protocol. Results were expressed as mean +/- sd. Spearman correlation test was used to identify the statistical correlation between sTREM-1 levels in serum and SLEDAI.

Results: Median serum sTREM-1 levels were significantly higher in patients with SLE (43.2, range 10.2–80.1 pg/ml) compared to healthy controls (5 pg/ml; range 3.3-8.3 pg/ml) with $p < 0.001$. When using the Spearman's rank correlation to study the correlation of s-TREM-1 with SLEDAI, it was found that s-TREM-1 levels positively correlated with activity score ($r=0.65$ $p=0.43$).

Conclusion: In conclusion, in spite of the enormous number of studies demonstrating lupus biomarkers, reliable biomarkers to predict lupus flare and/or response to treatment have yet to be identified. Larger studies are needed to clarify if sTREM-1 could play a role in determining the activity status of SLE or even herald a flare.

Biography

Ioannis Gkougourelas is currently working in Clinical Immunology Unit at Hippokraton General Hospital Thessaloniki, Greece. His research interest is mainly focused on Lupus. He has attended many international conferences & published papers in immunology journals.

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