

Clinical Association of a Soluble Triggering Receptor Expressed on Myeloid Cells-1 (sTREM-1) in Patients with Systemic Lupus Erythematosus

ABSTRACT

A triggering receptor expressed on myeloid cells-1 (TREM-1) is a member of the immunoglobulin superfamily with an established role in innate and adaptive immune response. We aimed to determine the plasma concentrations and clinical association of sTREM-1 in Systemic Lupus Erythematosus (SLE) patients. Plasma from 79 SLE patients and 35 normal healthy subjects were assayed for sTREM-1 and IL-6 levels using Enzyme Linked Immunosorbant Assay (ELISA). The clinical disease characteristics and serological data were prospectively assessed. Disease activity was scored using the SLE disease activity index. We detected significantly higher levels of sTREM-1 in plasma of SLE patients than the healthy control group. We also detected high sTREM-1 levels in subgroups of patients with neuropsychiatric manifestations (NPLE) and patients with the total high disease activity and NPLE activity. In addition, sTREM-1 levels were significantly correlated with parameters of disease activity, i.e. SLEDAI score, IL-6, hypoalbuminemia. On the other hand, we did not find significant differences in sTREM-1 levels in relation to age, disease duration, medications, ESR, other organ system involvement, or the presence of anti-dsDNA. Our preliminary data indicated that sTREM-1 levels may be an additional useful marker of disease activity in SLE. It also highlights its importance in patients with NPLE. An additional prospective longitudinal study should be carried out to support these findings.

KEYWORDS

Neuropsychiatric lupus;
systemic lupus
erythematosus; triggering
receptor expressed on
myeloid cells-1