Title: Plasma concentrations of growth arrest specific protein 6 and the soluble form of its tyrosine kinase receptor Axl in patients with Systemic lupus erythematosus and Behçets disease

Abstract

Purpose The aim of the present study was to investigate plasma concentrations of Gas6 and its soluble tyrosine kinase receptor sAxl in Systemic lupus erythematosus (SLE) and Behçets disease (BD) patients and to correlate those levels with clinical and laboratory manifestations of the diseases. Methods The study included 89 female SLE and 49 male BD patients. Twenty-seven age and sex matched healthy volunteers served as controls. All patients were subjected to full clinical examination, laboratory investigations and assessment of disease activity. Plasma concentrations of Gas6 and sAxl were quantified using ELISA technique. Results The level of Gas6 and Axl were significantly altered in the SLE patients ($p<0.001$) and in the BD patients (p0.001 and 0.04 respectively) compared to those of the control.

In SLE, the Gas6 was remarkably lower in those with class 1 lupus nephritis and in those with neuropsychiatric manifestations. In the BD patients, the level of Axl was significantly increased in those with neurological disease activity. The number of lymphocytes significantly negatively correlated with the gas6 and Axl levels significantly correlated with the number of neutrophils and negatively with the lymphocytic count in the BD patients.

Conclusion The plasma concentrations of Gas6 and Axl were significantly altered in SLE and BD patients, suggesting that the Axl receptor shedding is an active process affected by and influences Gas6-mediated Axlsignaling in both diseases. Special attention is required in SLE patients with early lupus nephritis and neuropsychiatric manifestations and BD patients presenting with neurological disease activity. The relation with lymphocytes and neutrophils

in BD throws light on the role of gas6 and Axl on their known resistance to cell death. Although the mechanisms responsible for the initiation of BD remain to be clarified, the role of the apoptotic process seems critical throughout the disease.

Keywords Growth arrest specific protein 6 (Gas6) . tyrosine kinase receptor Axl . systemic lupus erythematosus (SLE) . behçets disease