

Title: Elevated serum levels of a proliferation-inducing ligand in patients with systemic sclerosis: Possible association with myositis?.

a b s t r a c t

Objective: A proliferation-inducing ligand (APRIL) is a new member of the tumour necrosis factor family which is intimately connected to the regulation of cellular pathways. The aim of this study was to assess serum concentrations of APRIL in systemic sclerosis patients, and to correlate them with the main clinical

and serological features of the disease.

Methods: Sera from 35 patients with systemic sclerosis, 25 had limited cutaneous and 10 had diffuse cutaneous subtypes, and 35 normal healthy subjects were assayed for APRIL by Enzyme Linked Immunosorbant Assay. Demographic, clinical, autoantibodies and serological data were prospectively assessed.

Results: Serum APRIL concentrations were higher in patients with systemic sclerosis and in both its subtypes compared to the healthy controls ($p < 0.0001$ in all). Patients with elevated APRIL levels had significantly higher incidences of myositis than those with normal levels ($p = 0.04$). We did not find significant

differences in other organ involvement prevalence between systemic sclerosis patients with elevated vs. normal APRIL levels. In addition, the frequencies of autoantibodies (i.e., anti-topoisomerase I, anti-centromere) were comparable between both groups. Serum APRIL levels were correlated with serum γ -globulins concentrations ($r = 0.404$, $p = 0.016$) but not with C-reactive protein, skin score, nor pulmonary

functions. Serum APRIL was also correlated with creatine kinase levels only in systemic sclerosis patients with myositis ($r = 0.786$, $p = 0.02$).

Conclusion: Our preliminary results suggest increased serum APRIL levels in systemic sclerosis patients,

particularly in those associated with myositis and hypergammaglobinemia. To confirm our results, we propose that larger scale, multicentre studies with longer evaluation periods are needed.

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