Background

 Interleukin 27 (IL27) is a cytokine that belongs to IL12 family and it is mainly produced by antigen presenting cells. IL27 binding to its receptor leads to activation of many intracellular signaling pathways that can exhibit a wide variety of immunomodulatory actions. Aim of the work The current study aimed to determine IL27 concentrations in the sera of SSc patients and to assess the relation between these concentrations and the various clinical, laboratory and radiological disease parameters. Methods We measured serum IL27 concentrations in 31 SSc patients and 20 controls. The patients were subjected to detailed history and clinical evaluation. In SSc patients, modified Rodnan skin score (MRSS) was used to assess the skin thickness and pulmonary involvement was assessed by high resolution computerized tomography (HRCT) and forced vital capacity (FVC) assessment. Results IL27 serum concentrations in diffuse (median, 302.8; 101.6-1034.4 ng/L) and limited (median, 385; 109-826.3 ng/L) subtypes of SSc showed a significant elevation (P < 0.001) compared to its concentrations in the controls (median, 104.2; 51-184.2 ng/L). SSc patients with elevated IL27 serum concentrations had significantly lower forced vital capacity (FVC) than those with normal IL27 serum concentrations (p=0.04). Also, serum level of sCD163 significantly correlated with MRSS (r=0.48, p=0.0064) and FVC (r=-0.6, p=0.0005). Conclusion Patients with systemic sclerosis have significantly increased serum IL27 concentrations that remarkably associated with significant cutaneous and pulmonary involvement signifying that it could be a beneficial biomarker that reflects disease severity and implies a possible pathogenic role in SSc