Serum Levels of Pentraxin3 and Interlukin36α in Patients with Systemic Lupus and their Relation to Disease Activity

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Pentraxin3 (PTX3) plays an important role in inflammation, immunity, and atherosclerosis. Serum PTX3 has drawn attention as a marker that respond to local inflammation. Interleukin 36 (IL-36) is a novel inflammatory member of the IL-1 cytokine family comprising three different isoforms IL36α, IL-36β and IL-36γ. The objective of this work was to evaluate the levels of PTX3 and IL36α and to determine their relationships to disease activity in patients with systemic lupus erythematosus (SLE). Forty patients with SLE diagnosed according to SLECCA/ACR2012 criteria were allocated to the study, along with 20, age and sex matched normal control subjects. SLE patients included 20 patients with active disease, each having SLEADI score over 6 points and the other 20 patients, each of them had SLEADI score less than 6 points. Levels of serum PTX3 and IL36α was measured by quantitative sandwich enzyme immunoassay technique. There was a significant increase in the serum pentraxin3 and IL36α in SLE patients (*P*<0.01) compared to normal control subjects. The significance increased in serum levels of PTX3 and IL-36α, was noted in active (*P*=0.000 for both) and inactive SLE patients (*P*=0.003 and *P*=0.001, respectively), compared to normal control subjects. Moreover, the active SLE patients had significant increase in the serum levels of PTX3 and IL36α (*P*< 0.01 for both) compared to the inactive group of patients. A significant positive correlation between each of PTX3 and IL36α, and SLEADI score (*P*=0.008 and *P*=0.024, respectively) in SLE patients was observed. In conclusion, PTX3and IL36α serum levels are increased in SLE patients when compared to normal control subjects, correlated positively with SLEDAI score and thus could be used as markers of disease activity.