

Interleukin-17 - association to silent lupus nephritis and disease activity

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ABSTRACT

Background: Systemic lupus erythematosus is a multiorganic, chronic immune disease and lupus nephritis, a severe manifestation, represents the strongest predictor of a poor outcome of this pathology. Cytokines play an important role in lupus nephritis and consequently, their use as biomarkers of active systemic lupus erythematosus disease is of particular interest. The purpose of this work was to study the pro-inflammatory role of interleukin-17 in renal involvement in patients with systemic lupus erythematosus (SLE).

Methods: We performed a retrospective study of 87 patients diagnosed with SLE according to the Systemic Lupus International Collaborating Clinics 2012 diagnosis criteria. In this study, we determined the serum levels of interleukin-17 by ELISA.

Results: It was observed that 49 patients in the study group presented with positive values of interleukin-17, range (1.12 - 23.66) pg/ml. There was a positive correlation of interleukin-17 with active SLE as assessed by the Systemic Lupus Erythematosus Disease Activity Index. No association was found between serum interleukin-17 level and renal pathology at the inclusion or in the clinical history of the patients. Patients with leukocyturia and hematuria presented higher values of serum interleukin-17 than those without these manifestations. In the linear regression model, after adjusting for age, gender and treatment we found an independent association between serum IL-17 levels and leukocyturia presence with OR=2.06, 95% CI range (1.22-2.89).

Conclusions: A positive correlation has been observed between serum IL-17 and the SLE disease activity as assessed by the SLEDAI score computed without anti-DNA antibodies. Also, the IL-17 levels was strongly associated with the presence of leukocyturia and hematuria, even in patients with no clinical evidence of renal disease that might have silent lupus nephritis usually associated with a benign renal outcome.

Key words: systemic lupus erythematosus, lupus nephritis, interleukin-17, leukocyturia, hematuria

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