

Serum Interleukin-6 and Gene Polymorphisms in Rheumatoid Arthritis Patients in Babylon Province, Iraq

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Abstract : Rheumatoid arthritis (RA) is a systemic chronic inflammatory, autoimmune disease depicted by persistent symmetric polyarthritis which commonly affects joints of hands and feet. Current study aims to examine the probable link between serum interleukin-6 (IL-6) levels and (-174 G/C) IL-6 gene promoter polymorphism in RA in Babylon Province. 60 patients with RA and 60 apparently healthy individuals were subjected to present study. Measurement of serum IL-6 was assayed using commercially available ELISA kit. Disease severity score of RA patients was determined by use DAS-28. The polymorphism of (-174 G/C) IL-6 gene promoter was examined by the technique of polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). Present study find significant high levels of serum IL-6 and anti cyclic citrullinated peptide antibodies (ACCPA) in patients with RA in comparison with healthy controls. Genotype of (-174 G/C) IL-6 gene promoter polymorphism in RA patient were 80% GG, 18.3% GC and 1.6% CC, whereas in healthy control were 98.3% GG, 1.6% GC and 0% CC. The elevated concentration of IL-6, and its positive association with DAS-28 may propose a probable role of IL-6 in RA pathogenesis. The polymorphisms of (-174 G/C) IL-6 are also linked with the risk of RA, and the allele C has dramatically elevation in the susceptibility of RA in the population of Babylon.

Keyword: Rheumatoid arthritis, interleukin-6, (-174 G/C) IL-6 polymorphism, anti-cyclic citrullinated peptide antibodies, DAS-28.

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