Summary

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Rheumatoid arthritis (RA) is inflammatory a systemic disease with very complex pathogenesis and feature of chronic synovitis. The biological effect of the polymorphisms on the expression and functionality of IL-23R, such single nucleotide polymorphism can have functionally and phenotypic consequences that making IL-23R as risk factor for some autoimmune disease. In addition there is a new trend to find out new prognostic Biomarkers for rheumatoid arthritis which might help in fallowing Disease toward improvement or start second course of treatment.

Thus, the aim of present study is: to find out if there a prognostic significance for IL-13and IL-17 in Rheumatoid arthritis through linking its expression level with disease activity and disease severity, and to study if there is a role for IL-23R rs11209026 gene polymorphism in disease susceptibility by using healthy volunteers as a control group. To achive this goal A blood sample were collected from 40Iraqi patient which include (15 male and 25 female) with RA, who attended the consultant clinic for Rheumatology in Al-Diwaniyah teaching hospital from is1st january 2017 to10th May 2017 under the supervision of Rheumatology specialists. In addition to that 40 healthy volunteers were included as a control group.

Each blood sample was divided into two parts: Two milliliters of blood were collected in EDTA tube for DNA extraction, polymerase chain reaction -Restraction fragment Length polymorphism (PCR- RFLP) method which used to study SNP of IL-23R gene in addition to that Three milliliters of blood were collected in EDTA free Gel tube. Then serum has been separated in Eppendorf tube and optical density of IL-13 and IL-

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17 in serum was detected by ELISA technique and from which IL-13 and IL-17 concentration were evaluated according to standard curve. Data were summarized, presented and analyzed using statistical package for social science (SPSS version 23).

The results show that IL-13 and IL-17 have significant correlation with disease activity score 28 where the p value of both IL-13 and IL-17 (0.034 and 0.044) respectively. Receiver operating characteristic curve analysis revealed that IL-13 and IL-17 have cutoff value >231, 66 and >255, 93 respectively that yield the high specifity and sensitivity 100% . Regarding the IL-23R gene rs11209026 single nucleotide polymorphism in Iraqi RA patients. Allele and genotype frequency revealed that the frequency of the AA, AG, and GG genotype was not significantly different in the patient when compared with the controls (p=0.606, p=0.775, p=0.644) respectively .In addition to that analysis of allele frequency also shows no significant different in distribution between control and study groups, neither for allele A nor for allele G.

In conclusion, the concentration of IL-13 and IL-17 were significantly correlated with DAS28 and disease severity along with in addition to ROC analysis all of which reflect aprognostic value for such cytokine in RA patient .Moreover, IL-23R gene rs11202690 polymorphism is not considered risk factor for RA in Iraqi population.