

**Evaluation of Serum Anti- Cyclic Citrullinated Peptide
Antibodies Level in Rheumatoid Arthritis Patients with
and without Periodontitis**

A Thesis

**Submitted to the council of the College of Dentistry,
University of Baghdad, in partial fulfillment of the
requirements for the degree of Master in Science of
Periodontology**

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Baghdad – Iraq

2012 ,A. D

1433, A.H

Abstract

Background : Rheumatoid arthritis and periodontitis are widely prevalent diseases and are characterized by tissue destruction due to chronic inflammation. Recently, there is growing evidence that the two diseases share many pathological features. An association between periodontitis and rheumatoid arthritis has been considered many years ago.

Aim of the study: This study was conducted to detect serum level of anti-cyclic citrullinated peptide autoantibodies in rheumatoid patients with and without periodontitis and determine its correlation with clinical periodontal parameters .

Subjects and method: A total of 95 subjects ,age ranged (35 – 55) years, divided into three main groups, group I consist of 45 rheumatoid patients with periodontitis which sub grouped into 30 patients on routine rheumatoid treatment and 15 newly diagnosed patients (haven't taken treatment yet) , group II consist of 35 rheumatoid patients without periodontitis also sub grouped into 25 patients on treatment and 10 newly diagnosed patients ,lastly group III comprises 15 apparently- healthy volunteers. Blood samples were collected to determine the autoantibody level in serum by mean of enzyme-linked immune-sorbent assay .Clinical periodontal parameters were recorded at four sites per tooth including plaque index, gingival index, bleeding on probing, probing pocket depth and clinical attachment level.

Results: The present study showed highly significant differences between studied group regarding serum anti- cyclic citrullinated peptide levels at $p < 0.001$, as well as ,it revealed that mean serum anti- cyclic citrullinated peptide levels were statistically higher in group I than other two groups (96.32 ± 92.24 ; 29.14 ± 36.31 ; 1.03 ± 0.35) , respectively at $p < 0.001$. Regarding correlation, the current study observed weak positive correlation between serum antibodies

level and PL.I, G.I in the group I at $p < 0.001$, $p < 0.05$, respectively . Also highly significant differences between the three studied groups regarding all periodontal parameters at $p < 0.001$, were recorded. Although , non significant differences were reported between group I and group II regarding G.I and B.O.P at $p > 0.05$.

Conclusion: The present results provide strong evidence of association between periodontitis and rheumatoid arthritis, and suggested that periodontitis may play important role in activation and triggering immune response .This association is probably due to a common deregulation of the immune inflammatory response in these two diseases, despite their different etiology.