

# Quantitative Analysis of IgG Antinuclear Antibody in Chronic Periodontitis Patients

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## ABSTRACT

**Background:** Periodontitis is a bacterial infection of tooth-supporting tissues; the immunopathologic mechanisms include inflammatory cells and chemical mediators, which persist inflammation and develop a local autoimmune. The presence of autoantibodies against extracellular matrix components, anti-neutrophil cytoplasmic antibodies (ANCA) and anti-DNA was detected.

**Objectives:** To provide evidence of altered humoral immune response in chronic periodontitis, as well as to determine the presence of auto-antibodies in this disease.

**Subjects and Methods:** Blood samples were collected from 35 patients with CP (20 with sever periodontitis and 15 with moderate periodontitis) and from 30 healthy age and sex matched individuals served as controls. Clinical periodontal parameters used in this study were plaque index, gingival index, probing pocket depth, clinical attachment level and bleeding on probing. The levels of serum IgG-antinuclear antibody were determined using enzyme-linked immunosorbent assays, whereas serum immunoglobulin (IgG, IgM and IgA) were estimated by single radial immune diffusion method.

**Results:** Serum levels of IgG-antinuclear antibody and IgG were significantly higher in sever chronic periodontitis than in moderate chronic periodontitis and healthy controls ( $p < 0.05$ ). On the other hand, the serum levels of IgM and IgA showed no significant differences among three studied groups ( $p > 0.05$ ). Concerning the correlation between serum IgG-antinuclear antibody and clinical periodontal parameters, the level of this autoantibody did not show any correlation with clinical parameters of periodontitis ( $p > 0.05$ ).

**Conclusion:** The production of antibodies against self structures could be involved in the pathogenic mechanism of chronic periodontitis.

**Key Words:** Chronic periodontitis; Anti-nuclear antibody; Serum immunoglobulin.

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