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## Assessment of C-Reactive Protein in Patients with Different Periodontal Diseases Compared with Edentulous Persons

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### ABSTRACT :

Recent studies indicate that periodontal disease is associated with an elevated level of C - reactive protein (CRP). The aim of the present study was to determine the relative levels of serum CRP and periodontal clinical parameters in patients with different periodontal diseases compared with edentulous persons. Forty patients were enrolled in this study. Systemic conditions were assessed and serum CRP was evaluated. The patients were divided into four groups Chronic gingivitis (Group I), Chronic periodontitis (Group II), Aggressive periodontitis (Group III) and Edentulous patients wearing complete dentures (Group IV). Periodontal examination included probing depth (PD), clinical attachment loss (CAL), plaque index (PI), gingival index (GI), and bleeding index (BI). On comparing the level of CRP among four different groups, there was a statistical significant difference from each other. Positive significant correlations were found between clinical parameters and CRP level in group II and III. However there was a non significant correlation between the periodontal parameters and CRP level in group I. In conclusion elevated CRP levels had been associated with worsened periodontal conditions; moreover the determination of serum levels of CRP in edentulous individuals wearing complete dentures provides a useful marker and early diagnostic aid in detection of cardiovascular diseases in those patients.

### INTRODUCTION :

C-reactive protein is an acute-phase reactant that is produced from activated hepatocytes in the liver in response to diverse inflammatory stimuli, including heat, trauma, infection and hypoxia (1, 2).

The acute phase response is characterized by fever, increased vascular permeability, and a general elevation of metabolic processes. The acute phase reactants possess a wide variety of functions.

These include pro-inflammatory properties, activation of the complement factors, neutralization of invasive pathogens, stimulation of repair, and regeneration of a variety of tissues (3).

The acute phase response to injuries or infections is initiated by the activation of local macrophages and other cells leading to the release of mediators like tumor necrosis factor-alpha [TNF- $\alpha$ ], interleukin-1 beta [IL-1  $\beta$ ], and IL-6. In

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