#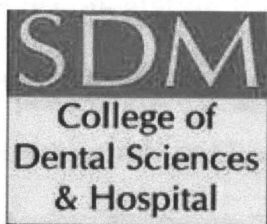 A Comparative Evaluation of Rheumatoid Factor, Erythrocyte Sedimentation Rate and C-Reactive Protein in Health, Chronic Periodontitis and Rheumatoid Arthritis - A Cross-Sectional Study.

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By

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PERIODONTICS AND ORAL IMPLANTOLOGY
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Under the guidance of

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ABSTRACT

Background and Objectives: Rheumatoid arthritis (RA) shows similar etiologic factors and pathogenetic mechanisms as chronic periodontitis (CP); however, the two diseases differ from one another. Both diseases represent destructive inflammatory diseases characterized by accumulation and persistence of inflammatory infiltrates in the local lesions. Thus, the aim of this study was to estimate and compare the levels of rheumatoid factor (RF), erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) in the serum of healthy participants, systemically healthy participants with CP, RA patients without CP, and in RA patients with CP and to ascertain a possible association between RA and CP.

Materials & Methods: A total of sixty subjects of both the sexes, were divided into four groups of 15 each on the basis of clinical and laboratory parameters for RA and CP as :Group 1: Systemically healthy subjects with a healthy periodontium, Group 2: Systemically healthy subjects with CP, Group 3: RA with a healthy periodontium, Group 4: RA and CP. Four ml of peripheral venous blood was obtained in plain blood collection tube from participants of all groups. Levels of RF and CRP were estimated by using rapid slide agglutination. Levels of ESR were estimated by using Westergren method.

Results: CRP, ESR, RF showed statistically significant difference between the groups ($p < 0.05$). The values of these parameters where higher in Group 4 followed by Group 3, Group 2, Group 1, respectively. In Group 4, a statistically significant correlation was observed with RF and plaque index (PlI), probing pocket depth (PPD) and RF, PPD and ESR.

Conclusion: Within the limitations of this study, an association between disease experience of RA and CP was demonstrated by assessing a defined group of individuals diagnosed with RA using standard clinical and laboratory parameters.

Key words: Arthritis; Rheumatoid factor; C-reactive protein; Chronic periodontitis; Gingival index; Dental plaque index; Erythrocyte sedimentation rate.