

Impact of Scaling with Root Planing on Serum ALP and CRP Levels in Chronic Periodontitis

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Abstract

Chronic periodontitis is a common inflammatory disease characterized by the destruction of supporting structures of the teeth. It not only affects oral health but also triggers systemic inflammatory responses. It involves both local tissue damage and systemic inflammatory responses. ALP and CRP levels can show how inflamed the gums are and how much they improve after treatment.

Aim: This study aimed to estimate and compare serum ALP and CRP levels in chronic periodontitis patients and healthy controls, and to determine the effect of scaling and root planing (SRP) on these markers after one month of therapy.

Materials and Methods: The study was conducted on 86 participants, 43 were with chronic periodontitis and 43 were controlled with healthy individuals referred to the Periodontology Department of NIMS Dental college, Jaipur. Scaling and root planing were conducted for periodontitis patients, and serum samples were collected from chronic periodontitis patients at two visits: before SRP and after 1 month of periodontal therapy (SRP). For comparison, sample was collected from each healthy control. The samples were used to determine the Levels of Alkaline phosphatase (ALP) and C- Reactive protein (CRP) using commercially available Kits (ERBA Diagnostic) on semi auto analyzer ERBA CHEM-7.

Results: The study showed that serum ALP and CRP levels were significantly higher in chronic periodontitis patients compared to healthy controls ($p < 0.05$) Following scaling with root planing (SRP), both enzyme levels showed a significant and progressive reduction at 1 month. The decline in enzyme levels after SRP indicates improvement in periodontal health and reduced inflammatory activity.

Conclusions: ALP and CRP levels were significantly higher in chronic periodontitis patients than in healthy controls. After scaling and root planing, their levels decreased significantly, indicating improvement and suggesting their role as useful biomarkers for periodontal disease activity and treatment response.

Keywords

Chronic periodontitis, Alkaline phosphatase, C-reactive protein, Scaling and root planing, Inflammation.