Pro-inflammatory cytokine levels in association between periodontal disease and hyperlipidaemia. 


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Department of Periodontology, Faculty of Dentistry, Süleyman Demirel University, Isparta, Turkey. ofentoglu@yahoo.com

Abstract

AIM:
The aim of this study was to evaluate serum and gingival crevicular fluid (GCF) pro-inflammatory cytokine levels in association between periodontal disease and hyperlipidaemia.

MATERIAL AND METHODS:
One hundred and twenty-three subjects with hyperlipidaemia and 68 systemically healthy controls (C) were included in the study. Hyperlipidaemic groups were divided into two groups as suggested diet (HD) and prescribed statin (HS). Both groups were divided into three subgroups as healthy (h), gingivitis (g) and periodontitis (p). The clinical periodontal parameters, fasting venous blood and GCF samples were obtained, and serum tumour necrosis factor-alpha (TNF-α), interleukin (IL)-1β (IL-1β) and IL-6 levels were evaluated.

RESULTS:
The ratio of total cholesterol to high-density lipoprotein (TC/HDL) was associated with gingival index and percentage of bleeding on probing (BOP%) in both hyperlipidaemic groups. In HS group, GCF and serum IL-6 were positively correlated with BOP% and TC/HDL. GCF TNF-α was positively associated with probing pocket depth and clinical attachment level, whereas serum TNF-α was associated with BOP% in the HD group. Serum and GCF TNF-α and IL-1β were significantly associated with TC/HDL in the HD group.

CONCLUSIONS:
Serum pro-inflammatory cytokines may play an important role in the association between periodontal disease and hyperlipidaemia.