

## The comparison of GCF and Salivary level of ALP in smokers and non-smokers with periodontitis and in healthy subjects

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### Abstract

**Background and Aim:** Periodontal destruction occurs in an episodic fashion, with periods of exacerbation and quiescence. It is therefore important to diagnose periodontal diseases in active phase. Various diagnostic markers have been identified in GCF and saliva. The aim of this study was to compare the salivary and GCF levels of alkaline phosphatase (ALP) in patients with periodontitis, smokers with periodontitis and healthy subjects.

**Materials and Methods:** In this descriptive study 90 subjects aged 30-50 without any apparent systemic disease were chosen and divided to 3 equal groups: smokers with periodontitis, non-smokers with periodontitis and healthy subjects. In healthy subjects, GCF samples were collected from gingival sulcus. In patients with periodontitis, GCF was collected from pockets of 5-7 mm of depth. About 5 ml of un-stimulated whole saliva was collected from all subjects. All GCF and salivary samples were sent to the laboratory for ALP measurement. ANOVA and Tukey's tests were used for statistical analysis.

**Result:** The results of this study showed that the mean level of ALP in saliva and GCF was higher in the first and second groups compared to the third group. The mean level of ALP in GCF was higher in the first group compared to the second group. The mean level of ALP in saliva was not statistically different between the first and second group.

**Conclusion:** It is possible to use both GCF and salivary levels of ALP as diagnostic markers for periodontitis. Higher levels of ALP in GCF samples of smokers with periodontitis could explain the higher rate of alveolar bone destruction in smokers.

**Keywords:** Alkaline Phosphatase, Periodontitis, saliva, gingival crevicular fluid, smoking