

SALIVARY CYSTATIN C- A DYNAMIC BIOMARKER OF PERIODONTAL DISEASE

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ABSTRACT

Background: The role of saliva in periodontal health is of great interest due to the presence of wide array of bioactive molecules offering protection against enzymatic tissue degradation seen in periodontal disease. Cystatin C is one such physiologically active antimicrobial protein well recognized due to its inhibitory potential against lysosomal enzymes, which are major contributors of periodontal disease. Aims and objectives: To assess severity of periodontal disease based on salivary cystatin C levels. Material and methods: Salivary cystatin C levels were evaluated and compared in periodontal health and patients with chronic periodontitis- smokers, chronic periodontitis non-smokers and aggressive periodontitis with 15 patients in each group.

The salivary samples were collected from each subject prior to the therapy and were analyzed for the levels of cystatin C by using the Quantitative Sandwich Enzyme Immunoassay technique. Results: Salivary cystatin C levels were highest in periodontal health when compared to periodontitis patients. Although, salivary cystatin C levels were slightly greater in smokers when compared to non-smokers with chronic periodontitis, the difference was not statistically significant. A positive correlation was observed between salivary cystatin C levels and gingival index & bleeding index. Aggressive periodontitis patients exhibited remarkably low levels of salivary cystatin C and a negative correlation with all the clinical parameters. Conclusion: These findings indicated that salivary cystatin C is a fairly significant biomarker of inflammation to assess periodontal disease severity, particularly in aggressive periodontitis patients.

KEYWORDS: Saliva, Biomarker, Cystatin C, Smoking, Periodontal Disease