"ESTIMATION OF SALIVARY SODIUM, POTASSIUM AND CALCIUM LEVELS IN PERIODONTAL HEALTH AND DISEASE"

A Dissertation
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to the

NITTE

NITTE UNIVERSITY

(Estd under Section 3. UGC Act 1956)
(Placed under category 'A' by MHRD., Govt of India; Accredited as 'A' Grade University by NAAC)

In part fulfillment of the requirements for the award of

MASTER OF DENTAL SURGERY (PERIODONTICS)

DEPARTMENT OF PERIODONTICS

A. B. SHETTY MEMORIAL INSTITUTE OF DENTAL SCIENCES
DERALAKATTE, MANGALORE - 575018.
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October 2015

ABSTRACT

Background: Salivary fluid is an exocrine secretion comprising of nearly 99% water and 1% of complex of organic and inorganic molecules. The most significant ions are sodium, potassium, calcium and chloride. The aim of this study was to estimate and compare salivary sodium, potassium and calcium levels in periodontal health and disease.

Material and methods: A total of 150 patients were selected based on selection criteria. The selected patients underwent complete periodontal examination and based on periodontal health status they were categorized into three groups. Each group consists of 50 patients. Clinical parameters like gingival index, probing pocket depth, clinical attachment loss were measured and recorded. Unstimulated whole saliva was collected and sent for biochemical analysis for estimation of sodium, potassium and calcium levels.

Results: Comparision of salivary sodium, potassium and calcium levels among the three groups was done by one way Anova test. Pair wise comparision was done among the groups by Tukey post hoc test. Comparision of salivary sodium, potassium, calcium levels of Group A(healthy group) with group B (gingivitis) and group C (Chronic periodontitis) showed statistical significant difference with a p-value of <0.001*. Value was statistically higher when group A (healthy group) compared with group C (Chronic periodontitis) than group A(healthy group) compared with group B(gingivitis).

Conclusion: In the present study, there was increase in concentration levels of salivary sodium, potassium, calcium ions which showed statistical significant difference. So the assessment of these inorganic ions may be used as a

significant diagnostic marker of an active disease status in periodontal tissues, which would help the clinician to identify the risk of developing periodontitis. However, additional studies are necessary to investigate these findings and future periodontal research should include larger sample sizes with prospective and experimental study designs.

Keywords : Sodium, Potassium, Calcium, Saliva, Periodontitis.