"EVALUATION OF LEVELS OF ASPARTATE AMINOTRANSFERASE (AST) IN SALIVA OF PATIENTS WITH DIFFERENT PERIODONTAL CONDITIONS – A BIOCHEMICAL STUDY"

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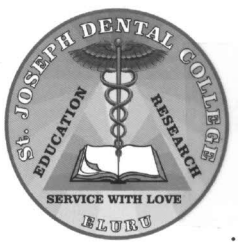

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ABSTRACT

Background: Saliva can be used as diagnostic fluid in medicine and dentistry. Components of saliva proposed as disease markers include enzymes (alkaline phosphatase, esterase, aspartate aminotrasferase, glucuronidase etc) immunoglobulins (IgA, IgG), and steroid hormones. The objective of this study was to evaluate the relationship between aspartate aminotransferase (AST) levels in saliva in different periodontal conditions indicated by community periodontal index treatment needs (CPITN), as the salivary AST test is non-invasive & cost effective diagnostic adjunct for assessing periodontal destruction.

Method: Twenty five subjects were assigned to one of the four groups C0, C1, C3 & C4 based on their CPITN code, totaling 100 participants. About 1ml of non-stimulated saliva will be collected in sterile test tube from individuals immediately after a single mouth rinse with 15 ml of water to wash out exfoliated cells. Biochemical assays of saliva samples will be carried out to quantify the AST enzyme levels, using IFCC (International Federation of Clinical Chemistry) method. The results were statistically analyzed using Student unpaired t-test, ANOVA, Pearson's correlation coefficient & Kruskall wallis test.

Results: The mean AST levels for groups C0-18.8 U/ml, C1-36.56 U/ml, C3-74.4 U/ml & C4- 179.48 U/ml and there were statistically significant differences ($P<0.05$) between AST levels from C0 to C1, C3 & C4 and C4 group showed AST levels as high as 130

U/ml. after the mechanical treatment in C4 group the AST levels decreased up to 37.32 U/ml.

Conclusion: Patients presenting CPITN Code 4 had higher AST levels than from patients coded lower and could be detected by the evaluated diagnostic system. Higher salivary AST levels seem to be related to periodontal destruction such as gingival bleeding & pocket depth.

Keywords - Saliva, Periodontal disease markers, Enzymes, Aspartate aminotrasferase.