EVALUATION OF SALIVARY ENZYMES ACTIVITIES AMONG PATIENTS WITH CHRONIC PERIODONTITIS

A thesis submitted to the College of Dentistry, University of Baghdad

In partial fulfillment of the requirements for the degree of Master of Science in Periodontics

By
Mustafa Jalal Abdul-Hadi
B.D.S

Supervised By:

Dr.Khulood A. Al-Safi
B.D.S; M.Sc; Ph D

2009 AB **1430 AH**

Abstract

Background: The cells of periodontium contain many intracellular enzymes like (alkaline phosphatase ALP, aspartate aminotransferase AST and alanine aminotransferase ALT) that are released outside into the saliva and gingival crevicular fluid GCF after destruction of periodontal tissue during periodontitis.

Aim of this study: to determine the activities of these enzymes in saliva and its relation to the clinical periodontal parameters during chronic periodontitis.

Materials and methods: Measurements of plaque index (PLI), gingival index (GI), bleeding on probing (BOP), probing pocket depth (PPD) and clinical attachment level (CAL) were taken from sixty subjects (thirty with chronic periodontitis and thirty with healthy periodontium), only male were included and saliva was collected from them and subjected to biochemical analysis of the enzymes alkaline phosphatase ALP, aspartate aminotransferase AST and alanine aminotransferase ALT levels.

Results: Statistical analysis of the results revealed the presence of a highly significant difference in the enzymatic activity between healthy and chronic periodontitis subjects with absence of any correlation between the activities of these enzymes and the clinical periodontal parameters except between alanine aminotransferase ALT and PLI (P_{value} :0.049)and between alkaline phosphatase ALP and BOP **(**P_{value}**:** 0.041**).**

Conclusion: From this study it can be concluded that a number of markers show promise as sensitive measures of disease and the effectiveness of therapy. At this time enzymes such as Alkaline phosphatase ALP, aspartate aminotransferase AST and alanine aminotransferase ALT are good biochemical markers of screening chronic periodontitis. Also they can be used as a monitor for healthy individuals and patients with different periodontal diseases. Further more, analysis of saliva may offer a cost effective approach to assessment in controlling progression of chronic periodontitis in large populations.