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Correlation between Salivary Visfatin and Creatine Kinase Levels with Periodontal Health Status of Patients with Coronary Atherosclerosis and Chronic Periodontitis

A Thesis

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Abstract

Background:Visfatin is a novel adipokine that mainly secreted by visceral adipose tissue, had an important role in inflammation and immune system. Creatine Kinase (CK) which is an enzyme that is involved in energy metabolism, found in large amounts in myocardium, brain and skeletal tissues.

Aims of the study: To evaluate the periodontal health status of the study groups (chronic periodontitis and chronic periodontitis with coronary atherosclerosis)and control group,to measure the salivary levels of visfatin and Creatine Kinase in these groups and compare between them, and to determine the correlations between salivary visfatin and Creatine Kinase levels with the periodontal parameters in the three groups.

Materials and Methods: 80 participants, males and females were recruited in this study with age ranged from (30-60) years, they were divided into three groups: the first study included patients the Chronic periodontitis g (n=30) ,the second study group included patients suffer from chronic periodontitis and coronary atherosclerosis (n=30) and the control group(n=20) which was healthy systemically with clinically healthy periodontium. Periodontal health status was determined by measuring plaque index(PLI),probing pocket depth(PPD),gingival index (GI) ,clinical attachment level (CAL) and bleeding on probing (BOP).Salivary samples were taken from each participant, salivary visfatin levels were then determined by enzyme -linked immune-sorbent assay (ELISA) while the activity of salivary Creatine Kinase was determined spectrometrically by using the International Federation of the Clinical Chemistry(IFCC) method on Hitachi 911 Automatic analyser.

Results: The results of this study showed thatthe mean values of PLI, GI,visfatin, Creatine Kinase and the percentages of sites according to PPD scores ,CAL scores ,BOP were higher in the second study group of patients with chronic periodontitis and coronary atherosclerosis than in the other groups withhighly significant differences between the groups at ($P \leq 0.01$).

Also by using Pearson Correlation Coefficient,salivary visfatin levels were correlated positively with all clinical periodontal parameters with a strong and positive correlation between salivary visfatin levels with CAL scores and PPD scores.

Salivary Creatine Kinase levels were correlated positively with all clinical periodontal parameters with a strong and positive correlation between its levels and mean values of GI and percentages of BOP.

Conclusion: The present study showed that salivary visfatin may be used as a marker for the development of coronary atherosclerosis and its levels are associated with the severity of periodontal tissue destruction and showed that Creatine Kinase may be used as a marker early for coronary atherosclerosis and chronic periodontitis.