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Evaluation of Some Salivary Enzymes Levels In Smoker Patients With Peptic Ulcer In Relation To Periodontal Condition

A thesis

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Abstract

Background:

Periodontal disease is a group of chronic inflammatory disease result from a shift in the microbial consistency in the oral cavity, which involve the teeth supporting tissues. Peptic ulcer is one of gastrointestinal disease which involve ulceration in the epithelium line the stomach and duodenum .Smoking is major health problem can affect any organ in the body such as the periodontium and gastrointestinal organs by cause severe complications and delay in healing. Aspartate aminotransferase and Alanine aminotransferase are known as liver enzymes that normally liberate from the dead cells into the extracellular fluids but their levels also increase in major problems such as liver diseases, myocardial infraction, diabetic mellitus, and others.

Aims of the study:

To compare the periodontal health status among the study groups which include (smoker patients with peptic ulcer, non smoker patients with peptic ulcer and non smoker patients without peptic ulcer), each study group subdivided into subgroups (gingivitis subgroup and chronic periodontitis subgroup) by measuring the clinical periodontal parameters (plaque index, gingival index, bleeding on probing, probing pocket depth, clinical attachment level and tooth loss).To measure and compare the levels of salivary enzymes aspartate aminotransferase and alanine aminotransferase between study groups, subgroups and control group. To correlate between the levels of salivary enzymes with each other and with the clinical periodontal parameters in the study groups, subgroups and control group (healthy periodontium).

Materials and Methods:

The levels of salivary enzymes aspartate aminotransferase and alanine aminotransferase, in addition to clinical periodontal parameters (Plaque index, Gingival index, Bleeding on probing, Probing pocket depth, Clinical attachment level, and Tooth loss) were measured from 140 males, age ranged (25-40) years old, that divided into study groups which include (group of 40 smoker patients with peptic ulcer, group of 40 non smoker patients with peptic ulcer, and group of 40 non smoker patients and without peptic ulcer , then each of these groups subdivided into 20 patients with gingivitis and 20 patients with chronic periodontitis),also there was control group which consists of 20 non smoker, without peptic ulcer and had healthy periodontium.

Results:

The highest median value of plaque index was in patients with gingivitis ,peptic ulcer and smoker, while the median values of gingival index and bleeding on probing were highest among patients with gingivitis, peptic ulcer and non -smoker. The highest median values of probing pocket depth, clinical attachment level and tooth loss were recorded in patients with chronic periodontitis, peptic ulcer and smoker. The median values of salivary enzymes AST level (39.25 IU/L) and ALT level (35.05 IU/L) were found to be highest in patients with chronic periodontitis, peptic ulcer and smoker. All of the clinical periodontal parameters as well as salivary AST and ALT enzymes demonstrated highly significant differences in the comparisons among the groups and subgroups. The correlations between the levels of salivary AST and ALT enzymes with clinical periodontal parameters and with each other were almost statistically non-significant for the study subgroups and control group.

Conclusions:

It can be concluded that the susceptibility for and the severity of periodontal diseases were significantly increased in patients with peptic ulcer or smokers as they had more periodontal tissue destruction, and the levels of salivary AST and ALT enzymes increase with the increase in the severity of periodontal diseases as well as the presence of peptic ulcer and smoking; accordingly, these results can suggest that salivary enzymes (AST and ALT) were considered as good biochemical markers of periodontal tissue destruction and this provide better chance in diagnosis, monitoring the efficacy of the management of periodontal diseases and peptic ulcer.

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