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***Assessment and Correlation of Salivary
Lactoferrin, α -Amylase, pH and Flow rate levels
in patients with Gingivitis and severity of
Chronic Periodontitis***

A thesis

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Abstract

Background: Periodontal diseases “are bacterial infections of the gingiva, bone and attachment fibers that support the teeth and hold them in the jaw”. Lactoferrin “is a multifunctional glycoprotein and it is the main component of neutrophil polymorphonuclear leukocytes that activated during inflammatory processes e.g. Periodontal diseases”. The α -Amylase is “an enzyme, produced mainly by parotid gland and it seems to play a role in maintaining mucosal immunity”.

Aims of the Study: Determine the salivary levels of α -Amylase, Lactoferrin and their correlations with clinical periodontal parameters (Plaque Index , Gingival Index , Bleeding on Probing , Probing Pocket Depth, and Clinical Attachment Level), assess the correlation between the salivary levels of α -Amylase with Lactoferrin, estimate the salivary levels of clinical physical parameters (potential of hydrogen ion (pH) and flow rate) and their correlations with clinical periodontal parameters and biochemical parameters (α -Amylase and Lactoferrin) at study groups that consist of (patients had gingivitis and patients had chronic periodontitis with different severities (mild , moderate , severe) and control group (clinically healthy periodontium).

Materials And Methods: Salivary pH, flow rate , α -Amylase and Lactoferrin levels and clinical periodontal parameters (Plaque Index , Gingival Index , Bleeding on Probing , Probing Pocket Depth , and Clinical Attachment Level) were measured from 75 males , age ranged (30-45) years old, that divided into study groups which include (group of 45 patients had chronic periodontitis with different severities which sub-grouped into (Mild=15 patients, Moderate=15 patients , Severe=15 patients) and group of 15 patients with gingivitis) and control group comprised 15 subjects had clinically healthy periodontium.

Results:The levels of salivary α -Amylase and Lactoferrin in patients with chronic periodontitis were the highest followed by patients with gingivitis while , the clinically healthy periodontium subjects presented the least level.

Highly significant differences were demonstrated between each pairs of chronic periodontitis subgroups regarding the levels of α -Amylase and Lactoferrin with the highest level at subgroup of patients with severe chronic periodontitis .

The pH was alkaline in gingivitis group but acidic in chronic periodontitis group and subgroups, in addition flow rate decreased in gingivitis group and chronic periodontitis group with its different severities.

Highly significant strong positive correlations were recorded between α -Amylase with Lactoferrin as well as, both of them with clinical periodontal parameters at all groups and subgroups were recorded.

The correlations between pH with clinical periodontal parameters were almost highly significant strong, although, negative at chronic periodontitis group and its different severities while they were positive at gingivitis group.

The Flow rate correlations with clinical periodontal parameters at all groups and subgroups were highly significant strong negative but they were positive with pH at chronic periodontitis group and subgroups (mild, moderate, severe).

Conclusion: From this study it can be concluded that such salivary markers (α -Amylase and Lactoferrin) can help to monitor the progression of the periodontal diseases.