Detection of Specific IgG and IgA anti Epstein-Barr Virus in Saliva of Chronic Periodontitis Patients and Healthy Subjects and Correlation with Severity of Chronic Periodontitis

A Thesis

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Abstract

Background: Chronic periodontitis is an inflammatory disease that extend into the tissues supporting the teeth. It is initiated by oral bacterial biofilms that develop in the soft tissue pockets between the gingiva and the roots of the teeth.

Recent studies have demonstrated that various human herpesviruses especially Epstein-Barr virus (EBV) may play a part in the pathogenesis of human chronic periodontitis and shows correlation with periodontal disease severity.

Aims of the study: To detect anti EBV IgG and IgA in saliva of chronic periodontitis patients and healthy control subjects by enzyme linked immunosorbent assay (ELISA) test and correlate them with clinical periodontal parameters (Plaque index (PLI), Gingival index (GI), Bleeding on probing (BOP), Probing pocket depth (PPD) and Clinical attachment level (CAL) and to determine the correlation of the virus with the severity of the disease and to determine the differences between males and females regarding the periodontal condition and the levels of anti EBV IgG and IgA .

Materials and methods: The study sample consisted of sixty chronic periodontitis patients of both gender (32 males and 28 females) and thirty healthy control subjects of both gender (16 males and 14 females) with age ranged from 30 to 50 years. Both groups without any systemic disease.

Periodontal parameters used in this study were PLI, GI, BOP, PPD and CAL. Unstimulated saliva samples were collected from all subjects and examined by ELISA test for EBV IgG and IgA antibodies detection.

Results: The results of the present study observed that there was no significant difference of PLI and GI between males and females in chronic periodntitis patients. Concerning BOP the number of bleeding sites in females was more than in males. For PPD and CAL, there was increased PPD with its

different scores (0,1,2) in males compared with females and there was increased CAL with its different scales (scales 0,1,2,3) in males than females. The percentage of control group who were positive for anti- EBV IgG was (36.7%) and in chronic periodontitis was (81.7%).

Concerning IgA, 40.0% of healthy group and 68.3% of chronic periodontitis patients showed a positive reaction for anti- EBV IgA . In this study there was no relation between plaque index and gingival index with EBV IgG and EBV IgA salivary levels in chronic periodontitis group. Concerning BOP, there was no significant correlation between EBV IgG and IgA Abs levels and BOP in chronic periodontitis patients. For PPD, there was a positive strong significant correlation with score 1 and 2 with EBV IgG salivary level, while EBV IgA has a positive significant correlation with score 1 and 2. Concerning CAL, there was a positive significant correlation with scale 2 and positive strong significant correlation was found between IgG and IgA and scale 3.

Conclusions: The present findings revealed that there may be an association between EBV infection and the severity of chronic periodontitis and thus coinfection with EBV may play a part in destruction of periodontal tissue.