

Relationship between herpes simplex virus type- 1 and periodontitis

A thesis

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Abstract

Background: Herpes simplex virus type -1 (HSV type-1) is a large enveloped deoxyribonucleotide (DNA) virus and significant human pathogen. It infects most persons early in life, primarily at mucosal surfaces following exposure to infected secretions, and causes a range of diseases from labialis and stomatitis to blinding keratitis and rarely encephalitis and cause neonatal herpes. After primary infection of oro-facial mucosa or skin, the virus resides in a latent state in the neurons of the sensory ganglion of the affected region, Over 70% of the adult population have neutralizing antibodies to HSV and serve as reservoirs of the virus.

Aims of the study: The aims of the study are to show the relationship between HSV-1 and periodontitis, and to determine HSV-1 Antigen in saliva of periodontitis patients by immunofluorescent, as well as to determine HSV-1 antibodies immunoglobulin G (IgG) in saliva samples by enzyme linked immunosorbent assay (ELISA) test.

Materials and Methods: Thirty periodontitis patients and thirty periodontitis patients and have recurrent herpes labialis (RHL) compare with thirty healthy control subjects were included in this study. Saliva samples were taken from all subjects (patients and healthy) and examined by direct immunofluorescent and ELISA test. Two swabs from patients with oral herpes labialis were considered as a positive control.

Results: The results of the present study observed that periodontitis is most prevalent at age 37 years and affect both sexes, the disease is occur more in males than females in periodontitis patients while periodontitis patients with RHL affect females more than males. Regarding family history, highest percentage of positive family history was found in periodontitis with RHL

73.3% of patients higher than periodontitis patients. The disease is more common in smoker patients, The mean of Plaque index was higher in two patients groups while mean of Gingival index in periodontitis patients with RHL showed the highest score among the three study groups, the mean of anti HSV-1 immunoglobulin G (IgG) Abs in periodontitis patients was (24.3804 Hu/ml) and periodontitis patients with RHL (24.3270 Hu/ml) which higher than mean in healthy control group (15.5797 Hu/ml).positive immunofluorescent results was observed in 14periodontitis patients, 21periodontitis patients with RHL and 8 in healthy control group.

1- **Conclusion:** The present study indicated that herpes simplex virus type-1 was detected in periodontitis patients by ELISA and immunofluorescent method. The study revealed positive association between HSV-1 and periodontitis and the virus may play a role in the pathogenesis of the periodontitis.

Saliva is regarded as a transudate of the serum and it contain the same antibodies as serum, containing a similar range of IgG antibodies, but at a much lower concentration. and it's easily available and simply examined.