Alpagot T, Duzgunes N, Wolff LF, Lee A. Risk factors for periodontitis in HIV+patients. J Periodontol Res 2004;39:149-57. (39 Refs)

Purpose: The purpose of the study was to identify risk factors for periodontitis associated with human immunodeficiency virus (HIV) infection.

Materials and Methods: A total of 152 HIV infected males, over the age of 18 with a mean age of 34.1, were enrolled in the study. Medical and demographic variables, such as medical history, age, race, cigarette smoking, alcohol consumption, oral hygiene practices, dental care utilization, level of education, and income, were obtained using a structured interview with each subject. Following a thorough extra and intraoral examination, the most diseased sextant, determined radiographically, from each subject was evaluated. The plaque index, gingival index, probing depth, attachment level, and bleeding on probing were recorded for each experimental site; which included the MB surface of 2 premolars and 2 molars in the same sextant and the MB of the 2 lower left incisors, and the DB of the two lower right incisors. GCF sampling was carried out. Subgingival plaque samples were collected. At the 6month visit, all procedures were repeated. All study subjects received scalingpolishing and OHI immediately after their baseline visit and no additional periodontal therapy was performed during the 6-month study. Each sample site was classified as 1) healthy, 2) gingivitis, or 3) periodontitis based on GI, probing depths and attachment loss. A progressing site was defined as a site which had 2mm or more new attachment loss during the 6-month study period. GCF neutrophil elastase and B-glucuronidase levels were determined and reported in total amount per site. The periodontopathic bacteria were determined in the subgingival plaque samples, by tagging specific monoclonal antibodies directed against the lipopolysaccharide of selected gram-negative bacteria, and were categorized into a low, medium, and high positive based on the amount of bacterial cells present. The data was analyzed.

Findings and Conclusions: At baseline, 111 HIV+ subjects (73%) were classified in the periodontitis group with a mean attachment loss of 4.85+/- 0.62. The mean age of the periodontitis population was 39.4 +/- 9.7 years which is statistically higher than that of the gingivitis group (32.2) and the healthy group (29.7). The odds were 3.78 of an individual older the age of 35 having periodontitis. The mean pack-years of the periodontitis group was significantly higher than that of the gingivitis group. Moderate smokers combined with heavy smokers had an odds ratio of 4.92 of having periodontitis vs. non-smokers. The mean viral load (16367 +/- 11562) of the periodontitis group at baseline was significantly higher than the mean viral load of the gingivitis group (9372 +/- 5429). There was no significant difference in mean CD4 levels of periodontitis and gingivitis groups. Neutrophil elastase and Bglucuronidase values were higher in the periodontitis group at baseline and 6-months and the increase in these values at 6-months was significant compared to the gingivitis and healthy group. Fusobacterium nucleatum was the most prevalent bacterium in the periodontitis and gingivitis study groups. There were significant correlations between F. nucleatum, Prevotella intermedia, Actinobacillus actinomycetemcomitans, Porphyromonas gingivalis and probing depth and

attachment loss at baseline and 6-month visits. A total of 65 sites in 43 patients demonstrated more than 2mm attachment loss over the 6-month study period. The mean neutrophil elastase and B-glucuronidase values, and percentage of *F. nucleatum*, *P. intermedia*, and *A. actinomycetemcomitans* at these active sites were significantly higher than at the inactive sites. Age, smoking pack-years, viral load, *F. nucleatum*, *P. intermedia*, *A. actinomycetemcomitans*, elastase, and B-glucuronidase are risk factors for periodontitis in HIV + patients. *F. nucleatum*, neutrophil elastase, age, pack-years, and viral load correlated significantly with attachment loss. Smoking pack-years had the highest correlation with attachment loss.

Susin C, Valle P, et al. Occurrence and risk indicators of increased probing depth in an adult Brazilian population. J Clin Periodontol 2005; 32:123-29.

Purpose: To describe the prevalence, extent and severity of periodontal probing depth and assesses the association between radiographic, behavioral and environmental risk indicators and the extent and severity of periodontal probing depth (PPD) in this population.

Materials and Methods: The target population was urban adults aged \geq 30 years or older in Rio Grande do Sul state in South Brazil. The study sample comprised of 853 dentate and 121 edentulous subjects. Eligible subjects who consented to participate were interviewed to gather demographic, socioeconomic oral health and other health-related data using a structured written questionnaire. The clinical examinations were performed in a mobile examination unit. A full-mouth clinical examination was carried out at six sites per tooth on all permanent teeth, excluding 3rd molars. Generalized and localized PPD was defined as subjects having >20% teeth or 1-20% teeth with PPD ≥ 5mm, respectively. Individuals with no teeth showing PPD ≥5mm were used as the reference group.

Findings and Conclusions: The prevalence and extent of PPD increased significantly between 30-39 and 40-49 years age groups, whereas in the older age groups PPD either remained unchanged or decreased slightly. PPD \geq 5mm was more prevalent in the maxillary than in the mandibular teeth, and occurred mainly in molars. 31.6% and 33.7% of the subjects had generalized and localized PPD, respectively, and 34.7% subjects had no sites with PPD ≥ 5mm. Subjects in the low and medium socioeconomic status groups had similar prevalence and significantly higher extent of PPD \geq 5mm. The univariate analysis showed that generalized PPD > 5mm was associated with subjects who were > 40 years old, males, of non-white race, moderate or heavy smokers and with a history of irregular dental visits. Cigarette smokers had a significantly higher occurrence of PPD ≥ 5mm than nonsmokers, and the relationship was dose dependent. Older age, male gender, nonwhite race, moderate and heavy cigarette smoking were significant risk indicators of increased PPD, and these may be useful indicators of periodontal disease high-risk groups.

Salvi GE, Lang NP. Diagnostic parameters for monitoring peri-implant conditions. Int J Oral Maxillofac Implants 2004;19(Suppl):116-127.

Purpose: To review literature on monitoring peri-implant conditions.

Materials and Methods: Lit review from articles through Aug 2003.

Findings and Conclusions: Clinical peri-implant evaluation is necessary in the detection of early signs of disease and planning interventions. Peri-implant mucositis is a reversible process of the soft tissues while peri-implantitis is characterized by loss of bone around implants. In order to longitudinally monitor implants, the following assessments can be made:

Plaque: There is evidence that formation and development of a microbial biofilm is important in the pathogenesis of peri-implant disease. Periodontal microorganisms from pockets of existing teeth have been documented around implants. There have been indices proposed to assess plaque accumulation around dental implants.

Mucosal conditions: Mombelli et al proposed the modified gingival index system(mGI) to evaluate peri-mucosal health based on BOP. Absence of BOP has a high negative predictive value for peri-implantitis. BOP appears to have a higher diagnostic accuracy around implants than around teeth. Probing depth has been an area of debate since it is not entirely comparable. The collagen fibers around implants in the supracrestal compartment run mostly parallel to the implant axis this makes peri-implant probing more sensitive to force variation w.c.t periodontal probing. Generally, successful implants allow probe penetration of approximately 3 mm. Progressive increases in probing depths would be a sign for alarm and hence establishment of PD at time of placement of prosthetic supra structure is important. The width of keratinized mucosa is as much a matter of debate around implants as it is around teeth. In the presence of good OH, it may have little influence on implant survival. Several researchers are in the pursuit of peri-implant sulcus fluid (PISF) markers that indicate tissue break down. It has been shown that the PISF volume is related to the bone resorption. Elevations of PISF IL-1B, PGE, PDGF has been detected in failing peri-implant sites than in controls. Presence of suppuration has been associated with severe mucosal inflammation.

Evaluation of bone-implant interface: Primary stability of implant at the time of placement is an important pre-requisite for osseointegration. Implant mobility represents a late implant loss and is specific and not at all sensitive to loss of bone-implant integration. Persistent discomfort may be evident even before any radiographic evidence of mobility is seen. Periotest values has been used although with much criticism about its accuracy. Resonance frequency analysis (RFA) measures primary stability and implant stability over time. It is a technique that is still being validated. Radiographic evaluation is often used as an indication of success. A mean crestal loss of ≥ 1.5 mm during the first year after loading and ≥ 0.2 mm mm/year thereafter has been suggested as a criterion. It is recommended that radiographs be taken at threshold, after 1, 3, 5 years and every 5 years thereafter.