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LETTER TO THE EDITOR

RELATION BETWEEN BUCCAL PROTOZOA AND pH AND SALIVARY IgA IN PATIENTS WITH DENTAL PROTHESIS

Sir,

Entamoeba gingivalis and *Trichomonas tenax* are human buccal protozoa. They live in dental tartar, in the necrotic mucosa of the cells and the gingival fringes of the gums[6].

The complexity of the oral environment and the multifactorial nature of the caries lesion, with the consequent loss of dental pieces, requires the cooperation of other disciplines such as Microbiology, Chemistry and Dietetics. Both partial and total loss of dental pieces produce modifications in buccal biotic conditions[1].

Some investigators think that *E. gingivalis* is an agent which causes periodontitis[7], while others consider it an opportunist capable of survive in the medium induced by periodontal disease[5].

T. tenax, in spite of being considered as a commensal might take part in the first phases of the process of destruction of periodontal tissues[6] owing to the finding of an acid phosphatase[3], a surface protein similar to fibronectine[6] and an important collagenolytic activity[6].

The objetive was to determine the frequency of these two protozoa and their relation with salivary IgA and with salivary pH in patients with dental prothesis.

Fifty adult patients with either fixed or mobile prothesis were selected. Tartar and/or dental plaque samples of the 4 inferior incisors were obtained by means of a scaler, as well as a saliva sample was taken from each of the patients. Both were collected in the morning with no previous brushing or, in other cases, after a period of at last three or four hours after the last buccal hygiene.

Tartar, as well as dental plaque were diluted with sterile physiologic solution and was observed through an optical microscope (100x and 400x).

There was a previous microscopic observation of saliva followed by another observation after 2000 r.p.m. centrifugation during 5 minutes (100x and 400x) to identify protozoa.

Both samples were coloured with Gomori trichromic stain[11] and cultured at 37 °C in the following specific media: Bacto Endamoeba Medium for *E. gingivalis* and Diamond medium[4] for *T. tenax.* Cultures were daily observed for 72 hours.

In saliva samples, pH was determined by means of strips of indicant paper (V.N.: 6/0-7/5), and secretory IgA concentration was determined by the radial immunodiffusion method[10] (V.N.: 20-40 mg/dl).

The statistical analysis was performed by the χ^2 test (signification level 0/05) so as to study the association between pH and IgA with the presence of parasite[2].

Out of the 50 examined patients, 36 (72%) presented parasites, 29 were monoparasitized, 26 presented *E. gingivalis* and 3 presented *T. tenax*; the other 7 presented both protozoa.

The frequency of *E. gingivalis* in the population studied was 66% and 20% for *T. tenax*. Both protozoa were predominant in the tartar sample, and/or the dental plaque.

The cultures performed for the search of *T. tenax* increased significantly the diagnostic sensitivity, since out of the 10 positive patients, 5 were diagnosed only through the culture. However, for *E. gingivalis*, neither the culture nor the trichromic coloration increased sensitivity.

Out of the 36 parasitized patients, 26 presented normal value of secretory IgA, 6 showed values higher than normal and 4 were lower then normal values.

The pH salivary ranges in these patients were the following: 2 individuals with pH 5/0-5/5; 11 with pH 6/0–6/5; 17 with pH 7/0–7/5; 4 with pH 8/0–8/5 and 2 with pH 9/0–9/5.

The statistical study revealed that there might be no association between the presence of parasite and the two variables studied, IgA ($p = 0/332$) and pH ($p = 0/656$).

The flora present in the microbiological plaque of dental protheses may be the cause of infection, not only at local level but also of other systemic infections owing to the co-existence of predisposition factors in the host.

At present, various investigators are relating dental protheses with high predisposition to caries as well as to the progression of periodontal disease.

This study shows high frequency of buccal parasites in patients with dental prothesis (72%). The frequency of oral parasites is higher than what has been communicated by some authors for a population with healthy mouths (50%)[12] and similar to the values found in patients with the buccal pathology (78%)[13].

The frequency of *E. gingivalis* was higher than that of *T. tenax*, as it occurred with both mentioned populations above[12,13].

Statistical studies demonstrated that IgA and pH are independent of the presence of these buccal parasites, coinciding with previous investigations[8,13].

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