



EDJ

EGYPTIAN DENTAL JOURNAL

January 1996

Volume 42, Number 1,

SPECIFIC ANTIBODY RESPONSE TO SUBGINGIVAL MICROFLORA FROM JUVENILE PERIODONTITIS PATIENTS IN THE EGYPTIAN POPULATION

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Abstract :

Serum antibody titers from patients with juvenile periodontitis were compared with those from periodontally healthy subjects using the enzyme-linked immunosorbant assay. Immunoglobulin G (IgG) levels were detected against a battery of microorganisms namely *Prevotella intermedia* (*P.intermedia*), *Porphyromonas gingivalis* (*P.gingivalis*), *Actinobacillus actinomycetemcomitans* (*A.a*), *Campylobacter rectus* (*C.rectus*), and *Peptostreptococcus micros* (*P.micros*). These species were selected based on the results of the preliminary microbiological data of the same population. Results of our study suggest that Juvenile periodontitis patients showed a higher mean IgG antibody titer to *P.intermedia* (80.4), *A.a* (95.7), *P.gingivalis* (104.5) compared to controls. In contrast there were no significant difference between patients and controls antibody levels to *C.rectus* (80.5) and *P.micros* (55.2). These findings indicate that *P.inter.*, *P.gingivalis* and *A.a* may play a role in the etiology and pathogenesis of juvenile periodontitis among the Egyptian population.

INTRODUCTION:

The destructive manifestations of the immunological response to oral microorganisms has been proposed to play a role in the development of inflammatory periodontal disease. The role of the humoral immune response in protection against periodontal disease is still questionable, in most infections there is an association between the causative bacteria and the humoral immune response such that specific serum antibodies are produced, whether these detected serum antibodies are protective or destructive to the periodontium is still in debate.

Several reports have described antibodies in serum reactive with a number of suspected pathogens in both localized and generalized early onset periodontitis. In these reports the goal was to characterize groups of subjects by either a prevalence of positive responses or

mean titers. The significance of a high prevalence or a significantly higher mean titer for an antibody reactive with a bacterial species in sera from a diseased subject population generally has been to implicate that species are possibly pathogenic for periodontal disease⁽¹⁻³⁾.

The use of estimations of serum antibody levels was considered by some investigators as, indicators of current disease activity, predictors of future disease progression in a patient with evidence of previous destruction; predictors of future disease initiation in a previously healthy subjects⁽⁴⁾. In addition, attempts have been made to evaluate various parameters of the host response in chronic inflammatory periodontal disease as possible indicators of the response to various periodontal treatments^(5,6).

Naito et al.(1984)⁽⁷⁾ used the enzyme-linked immunosorbent assay (ELISA) to detect serum IgG antibody against a number of bacteria

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