Egyptian Dental Journal, 48, 2213:2220 October, 2002

PERIODONTAL COMPLICATIONS OF ORTHODONTIC THERAPY

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ABSTRACT:

The rationale of this cross sectional study is to: A) Determine the incidence of unwanted effects of orthodontic therapy among 100 adolescent orthodontic patients B) To test the hypothesis that these unwanted effects may be due to increased level of IL-I ß in the gingival crevicular fluid and change in the ecology of the dental plaque.

One hundred orthodontic patients, 60 females and 40 males, their mean age (l7± 1.5 y) and 40 patients who are going to have orthodontic treatment, 24 females and 16 males with mean age (16.7± 0.7 y) were selected. For (very participant the following parameters were recorded: 1- Quigley and Hein plaque index.2- Papillary bleeding index .3- Probing pocket depth. 4 - Attachment level 5- Degree of gingival enlargement. 6- BANA reaction of the dental plaque. 7- Total amount of IL-lß level of the GCF.

The results of the study revealed that 70% of the patients in the orthodontic group showed gingival or periodontal change at one or more of the sites examined. The mean plaque index and PBI scores were higher in the orthodontic than the control group ($P<0.01$). The PPD and AL were slightly higher in the orthodontic group($P<0.05$). About 24.8%of the sites examined in the orthodontic group show slight to moderate gingival hyperplasia. The dental plaque at the orthodontic band or brackets (900 site out of 1200 site) showed BANA positive reaction. This denotes increase in number of bacteroid ssp, fusobacteria and spirocheates. The total amount of IL-1ß in the GCF was statistically significant higher at the teeth subjected to active orthodontic force than banded teeth not subjected to active force.

From the results of the present study we conclude that unwanted effects of orthodontic treatment is a fairly common problem among adolescents. The change in the ecology of tne dental plaque at banded or bonded sites together with increased level of IL-1ß secreted as a result of orthodontic force or in the course of gingival int1ammation may in part responsible for these effects.

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