

936274 DTPE/M: MAJOR : PERIODONTICS ; M.Sc. (PERIODONTICS)

KEY WORD : BLACK-PIGMENTED ANAEROBES/ PERIODONTITIS / FIXED ORTHODONTICS

NOPADOL CHEUCHAROENVASUCHAI : STUDY OF PERIODONTAL STATUS AND BLACK-PIGMENTED ANAEROBES IN PERIODONTITIS PATIENTS UNDERGOING FIXED ORTHODONTIC TREATMENT. THESIS ADVISORS: PUSADEE YOTNUENGKIT, M.S., CHOLTICHA AMORNCHAI, M.S., PRAMUAN TAPCHAISRI, Ph.D., SURACHAI DECHKUNAKORN, Grad.Dip. 60 P. ISBN 974-661-946-2

The aim of this 6 month study was to evaluate the effect of orthodontic movement on periodontally reduced teeth in periodontitis patients undergoing fixed orthodontic treatment. The evaluation consisted of 1) the association with periodontal status (gingival index, probing pocket depth, clinical attachment level, 2) the rate of repopulation in periodontal pockets by black-pigmented anaerobes and 3) the deterioration of periodontal attachment. Ten subjects aged between 30-45 years participated in this study. They presented periodontitis with pathologic migration teeth requiring fixed orthodontic adjunctive therapy. All of them underwent periodontal initial phase; only four underwent periodontal surgery. Before the study started, all subjects underwent microbial count followed by professional cleansing. Two weeks later the clinical parameters and microbial monitoring were recorded as baseline data, and the procedures were repeated at the 3<sup>rd</sup> and 6<sup>th</sup> month. Only upper teeth were used. All orthodontic movement teeth were the test teeth and the non-orthodontic movement teeth were the controls. The clinical parameters included gingival index, probing pocket depth, and clinical attachment level performed at six sites of each tooth. Microbial studies consisted of detecting the presence and the percentages of black-pigmented anaerobes in total anaerobes counts on plaque agar. In each subject, the subgingival plaques from the deepest sites of the test teeth were pooled as test samples. The control samples were pooled from the control teeth. The results at the 3<sup>rd</sup> and 6<sup>th</sup> month observations did not show any statistically significant differences in probing pocket depth or loss of clinical attachment level ( $p < 0.05$ ) but there was a significant increase in gingival index at both 3 and 6-month observations. The rate of repopulation of black-pigmented anaerobe were 2.8 and 3.0 times higher in test teeth and 2.6 and 3.0 times higher in control teeth at the 3<sup>rd</sup> and 6<sup>th</sup> month, respectively, when compared to baseline. Fixed orthodontic tooth movement and the increase of the percentages of black-pigmented anaerobe did not seem to represent a serious risk factor for the deterioration of the periodontal status in periodontally reduced teeth during 6-month observations. This study suggests that the periodontal maintenance visit for subgingival cleansing should be performed at 3 month and 6 month intervals during fixed orthodontic treatment to prevent gingival inflammation and periodontal breakdown, respectively.