

OP33 OUTCOME OF ORTHODONTIC TREATMENT SIMULTANEOUS TO OR AFTER PERIODONTAL CAUSE RELATED TREATMENT IN PERIODONTALLY COMPROMISED PATIENTS

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AIM: Orthodontic treatment in periodontally compromised patients is controversial and lacking scientific evidence. The aim of the present study was to compare two treatment strategies regarding the effect of orthodontic tooth movement on periodontal status in patients with periodontally compromised dentitions.

SUBJECTS AND METHOD: A randomized, parallel, prospective clinical study was performed from 2010 to 2016 in the Lithuanian University of Health Sciences and two private clinics in Kaunas, Lithuania. Fifty periodontally compromised patients (15 men 35 women) were enrolled and randomly assigned to a test or control group according to periodontal treatment timing. Inclusion criteria were: >25 years, good general health, a minimum of six anterior teeth present, periodontitis experience and general marginal bone loss. All patients received oral hygiene instruction and supra- and sub-gingival debridement by ultrasonic instrumentation supplemented with hand instruments following baseline examination. Control group patients received cause-related periodontal treatment before the start of orthodontic treatment. Periodontal treatment for test group was performed simultaneously to treatment with fixed orthodontic appliances. Orthodontic treatment with conventional straightwire mechanics was performed for all patients in the study. Changes in periodontal status at baseline and before and after orthodontic treatment were compared between the test and control groups. The primary outcome variable was the change in percentage of sites with a clinical attachment level ≥ 4 mm. Statistical analyses to compare the two independent groups were conducted using the non-parametric Mann-Whitney *U* test.

RESULTS: No difference between the test [median 23.2%, interquartile (IQR) = 12.7% of sites] and control (median 25.0%, IQR = 12.6% of sites) groups was found in the median percentage of sites with clinical attachment level (CAL) gain. A significant difference was found in the median percentage of sites that changed to the lower disease group of pocket depth after the whole periodontal-orthodontic treatment between the test (25.0%, IQR = 19.8%) and control (36.4%, IQR = 26.3%) groups ($P < 0.05$). Total periodontal-orthodontic treatment duration was significantly longer for the control group, mean difference 4.05 ± 1.59 months ($P < 0.01$).

CONCLUSIONS: Both groups showed gain of CAL and reduction of sites with a pocket depth of more than 4 mm. Total periodontal-orthodontic treatment time was significantly longer for the control group.