

OP13 PIEZO-CORTICISIONS USING A NEW SURGICAL GUIDE: EVALUATION OF PAIN AND REDUCTION OF ORTHODONTIC TREATMENT TIME?

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**AIM:** To assess the efficiency, the pain and the impact on daily life of orthodontic treatment combined with piezo-corticision surgery (OT-PC) using a novel surgical guide (SG)

**MATERIALS AND METHOD:** A radiological guide was developed with a vacuum-formed retainer and cones of gutta percha and then converted into a SG after analysis of cone beam computed tomographs. Thirteen adult patients [average of discrepancy index (DI) = 16] were submitted to OT-PC. A quarter of bone incisions were not carried out on the lower incisors due to root proximities. The control group consisted of 13 retrospective patients (average of DI = 9) matched with OT-PC group for age, compliance, non-extraction cases, active self-ligating metallic brackets. For the pain and daily life assessments, a questionnaire using a visual analogue scale (VAS) was used during the first week. A questionnaire of satisfaction was used at the end of the OT-PC. The Shapiro-Wilk test was used to evaluate the normality of distribution. Overall treatment time was analyzed by an independent samples test and the duration of alignment was compared by a Mann-Whitney test.

**RESULTS:** Treatment time was significantly reduced in the OT-PC group for alignment of upper (52%,  $P < 0.0001$ ) and lower (33%,  $P = 0.017$ ) teeth and overall treatment (46%,  $P < 0.0001$ ) when compared to the control group. The median score pain was low (VAS = 1/10) and temporary (< 5 days) with a median overall consumption of acetaminophen of 3.5 g (1-8.5). Chewing was the function the most affected by OT-PC and resulted in the most disturbed the quality of life. After one week, 92.3 per cent of patients would repeat the surgery. At the end of treatment, all patients were satisfied by OT-PC and they would redo the surgery.

**CONCLUSIONS:** The OT-PC performed with a novel surgical guide was efficient in reducing the length of treatment while causing minimal post-operative pain. Patient satisfaction with this treatment was high.