

OP15 EVALUATION OF THE EFFECTIVENESS OF TWO DIFFERENT TYPES OF SELECTIVE ALVEOLAR DECORTICATIONS ON ORTHODONTIC TOOTH MOVEMENT

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AIM: To evaluate differences between two types of selective alveolar decortications (SAD) during canine retraction after extraction of the upper first premolars.

SUBJECTS AND METHOD: Seventeen patients (mean age, 15 years) with an Angle Class I or II malocclusion with dentoalveolar protrusion or crowding requiring the therapeutic extraction of the upper first premolars, with subsequent retraction of the upper canines. One side of the maxillary arch was randomly chosen for treatment with perforations (PS) and the other side for treatment with vertical cuts (VCS). Canine retraction was initiated after levelling via closed nickel titanium coil springs applying a force of 150 g on a continuous 0.016 × 0.022 inch stainless steel archwire using miniscrews as anchorage. The rate of tooth movement, molar mesial movement, canine rotation and canine intrusion were evaluated on plaster models obtained before the start of canine retraction and at the first, second and third months (T0, T1, T2, T3 respectively) using the 3Shape orthoanalyzer programme. The patients were also observed for scar tissue. Data were evaluated statistically using a paired *t*-test and Wilcoxon's signed rank test.

RESULTS: The mean retraction rate was 1.03 and 1.12 mm/1 month with VCS and PS, respectively. The amount of canine retraction, intrusion, rotation, and molar mesial movement were not statistically significantly different between PS and VCS at any time period. With VCS the amount of canine retraction was significantly ($P = 0.006$) higher at T0-T1 than at T2-T3. No significant difference was found between T0-T1 and T2-T3 at PS for this measurement. Scar tissue was observed in 67 per cent of the patients on both sides.

CONCLUSIONS: The two methods of SAD revealed similar results regarding the rate of canine movement, canine rotation and molar anchorage loss. The rate of tooth movement was not different from the rates previously reported for conventional canine retraction.