Evaluation of Canine Retraction Rate and molar Anchorage Loss on Implant and Non-Implant Sides for Iraqi Adult Sample
(Clinical Comparative Study)

A thesis

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Abstract

Various anchorage techniques were designed for canine retraction. Intraoral conventional techniques not always enough, and now implants are widely used to increase the intra oral anchorage. The purposes of this study were to measure and compare the rates of canine retraction and molar anchorage loss with titanium mini-implant anchorage and conventional molar anchorage.

The sample comprised 20 Iraqi patients (10 female and 10 male; age range, 18-25 years; mean age, 19.7 years) who were scheduled for extraction of upper first premolars, After leveling and aligning, titanium mini-implants 1.6 mm in diameter and 8 mm in length were inserted in the left side of maxillary arches between the roots of the second premolars and the first molars while the non-implant side include banding of maxillary right first and second molars with heavy ligation of maxillary right second premolar, first molar and second molar. X-ray guide and a bite wing radiograph used to determine the implant position. The implants indirectly and immediately loaded and the molars were also loaded immediately with closed coil springs with a force of 150 g for canine retraction. Using the pre and post retraction study models, the amount of canine retraction was measured from canine cusp tip while molar anchorage loss measured from molar central fossa by using acrylic plug fabricated from acrylic with reference wires 1.0 mm SS embedded in the acrylic.

The results showed that the mean canine retraction amounts and rates were larger on the implant-anchorage side than those on the molar-anchorage side in both genders. While mean molar anchorage loss amounts were smaller on the implant-anchorage side than that on the molar-anchorage side in both genders.

In conclusions, the canine retraction proceeds at a faster rate when titanium mini-implants are used for anchorage and there are significant mesial movement of molars in the non-implant side and non-significant movement on implant side.