

Modified Nance Appliance for Tooth Derotation

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ABSTRACT

De-rotation of posterior teeth provides space which can be utilized for relieving crowding in the anterior region. De-rotation of the teeth if, carried out with continuous wire can lead to unwanted rotation of the teeth from which forces are applied. Couple forces applying equal and opposite forces can be judiciously used for correction of rotations.

Keywords: Premolar de-rotation, Modified Nance Appliance.

INTRODUCTION

The aim of the case report was to introduce an appliance that can be used for correcting severe rotation of premolars as well as for correction of tongue thrusting habit in pre-adolescent patients. Usually canines and premolars are de-rotated during fix orthodontic treatment. If de-rotation is carried out on Ni-Ti wires during the levelling phase, it causes undesirable force and unwanted tooth movement of neighbouring teeth^{1,2}. A special Nance palatal arch was designed to prevent undesirable effects

CASE REPORT

Fabrication:

An acrylic Nance button was fabricated for the re-enforcement of the anchorage of the maxillary molars. Two hooks made of 0.032 inch round stainless steel wire were incorporated into the acrylic portion of the Nance button on either side. These hooks helped in application of force for de-rotation of the premolars. Brackets were bonded on the buccal aspect along with lingual buttons on the lingual aspect of the maxillary second premolar (rotated disto-lingually). Forces on the buccal side were applied with the help of elastic chain from the molar hook to the bracket for disto-buccal rotation of the premolars (Fig. 1).



Figure 1. Before correction of rotation

Similarly, forces on lingual side were applied with the help of elastic chain from the hooks in the acrylic button to the lingual button for the application of mesio-lingual forces³. This couple force helped in the application of equal and opposite force so as to de-rotate the maxillary premolars bilaterally. After 6 weeks the tooth was de-rotated completely (Fig. 2).



Figure 2. After correction of rotation

These hooks can equally be used in case where correction of the molar rotation is required⁴. The advantages of this modified Nance button was anchorage maintenance, premolar de-rotation as well as the correction of tongue thrust habit.

DISCUSSION

De-rotated teeth have a strong tendency to relapse and it should be over-corrected if possible and retained full time for at least 6 months⁵. Modified Nance appliance is a fixed appliance which can efficiently correct tongue thrust habit as well as severely rotated posterior teeth in a short duration.

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