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RESEARCH ARTICLE

THE USE OF MODIFIED NANCE PALATAL BUTTON WITH "D" IWAKAR HOOK FOR THE CORRECTION OF 90 DEGREE ROTATED MAXILLARY CENTRAL INCISOR

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ABSTRACT

Rotation of a tooth refers to a condition in which there is a displacement of the tooth around its long axis within the alveolar bone. The aim of this case report is to demonstrate a simple and fast method for the correction of a severely rotated tooth. A female patient, 12 years of age reported with a chief complaint of irregular arrangement of teeth. The patient was diagnosed with Angles Class I malocclusion with severely rotated right maxillary central incisor. A modified Nance palatal button with "D"iwakar hook was inserted in the mouth and after 5 months, the tooth was brought back into normal alignment.

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INTRODUCTION

Maxillary central incisor rotation causes several esthetic and psycho social problems. Rotation of maxillary central incisor has been reported commonly due to presence of mesiodens or supernumerary tooth in most of the cases. The supernumerary teeth are found to be five times more prevalent in the permanent dentition than the primary dentition (Grahnen, 1961). The prevalence of mesiodens is reported between 0.15 and 1.9% (Sedano and Gorlin, 1969; Sykaras, 1975). Correction of rotations can be difficult to treat with removable appliances alone. Nance palatal button is an effective source of reinforced anchorage which uses palate as an anchor unit. In this case report we have used Nance palatal button with a D hook to correct central incisor rotation without causing reciprocal effect on the other teeth.

Case Report

A 12 year old girl reported to the department of Orthodontics with chief complaint of unesthetic smile. On clinical examination, a supernumerary tooth was present between the central incisors (Fig.1). There was 90 degree rotation of right maxillary central incisor. After doing complete radiographic examination, it was planned to extract the supernumerary teeth before starting orthodontic treatment. Complete banding and bonding of maxillary and mandibular arch was done with MBT appliance having 022 slot. A 19" stainless steel wire was soldered on both the maxillary molar bands. Nance palatal button was fabricated using cold cure acrylic. In the dough stage, a 21" stainless steel wire was bent in the shape of a "D" and was placed in the acrylic (Fig.2). Lingual button was bonded on the mesial surface of the central incisor. 016" Australian wire was ligated in the maxillary arch bypassing the right central incisor and both the lateral incisors. Fig. 3 shows the appliance in place. Fig. 4 shows the frontal and occlusal intraoral photographs after correction of central incisor rotation. Fig. 5 shows the post treatment frontal and occlusal photograph of the patient.

DISCUSSION

A central incisor with slight rotation can be corrected with the help of a removable appliance, but correction of severe rotation of the central incisor with removable appliances might be difficult. The modified Nance appliance used in the present case study was found to be an easy and convenient method of correcting the rotation of central incisor. Since in this case all four premolar extractions were planned, complete bonding and banding of upper and lower arches was done and then the modified Nance palatal button was placed. Thus anchorage was preserved in the molar region and the space left after the

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Fig. 1. The rotated central incisor

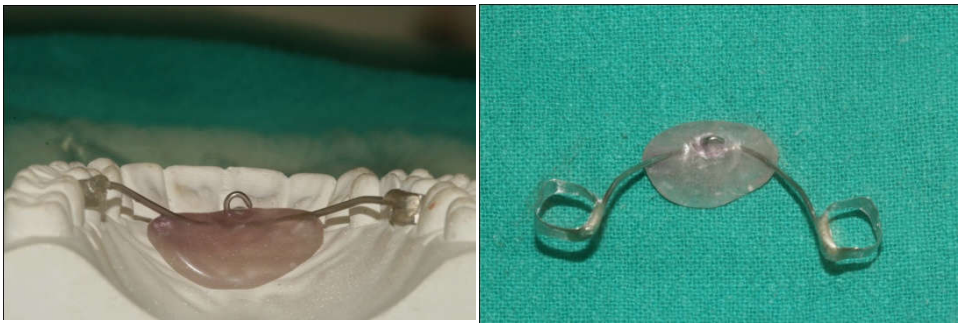

Fig. 2. The modified Nance palatal button with “D”iwakar hook

Fig. 3. The appliance in place

Fig. 4. The frontal and occlusal intraoral photographs after correction of central incisor rotation

Fig. 5. The post treatment frontal and occlusal photograph of the patient

extraction of the premolars was utilized for complete retraction of the incisors. Another advantage with this appliance is that the patient cooperation is minimal. This appliance can be given even without bonding the complete arches and by just giving an attachment from the D hook of the Nance palatal button to the rotated central incisor which needs to be corrected.

Conclusion

The modified Nance palatal button with "D" iwakar hook was found to be an easy and efficient method to correct severe rotations of the maxillary central incisor.

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