Clinical Pearl

Nance Palatal Button with Begg Brackets for Derotation of Premolars

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ABSTRACT

Early treatment response is desired by both patient and orthodontist and achieving the same with new modification in the routine procedures is the requirement of modern orthodontic practice in order to shorten the treatment time. Nance palatal button (NPB) commonly used as anchorage appliance for maximum or critical anchorage cases and also as a space maintainer. This passive device was modified to achieve active tooth movement in the present case and to accomplish the correction of bilateral premolar rotations as well as anchorage requirement at the same time to reach the goal of alignment and levelling as early as possible.

INTRODUCTION

In modern day orthodontics early treatment response is desired by both patient and orthodontist. Hastening the pace of treatment by modifications in the appliance systems or treatment procedures, is the need of the hour to shorten the treatment time.[1]Nance palatal button (NPB) first was described by Nance in 1947 [2] and is a common anchorage appliance for maximum or critical anchorage and also as a space maintainer. It is a passive device not used for any active tooth movement. Certain modifications have been done in this appliance in literature to facilitate various types of tooth movements. This article highlights a modification in NPB to achieve anchorage requirement as well as correction of bilateral premolar rotations to accomplish the goal of alignment and levelling as early as possible.

TECHNIQUE

Bands are selected for maxillary first molars; molar buccal tube positions are marked and molar tubes are welded with the help of spot welder. Pick up impression is made with bands placed on molars. Impression is poured with Plaster of Paris securing the position of bands in the impression. Outline of Nance palatal button is marked on the cast (Fig 1a&1b) and required wire bending is done. During acrylization of Nance palatal button, two Begg's bracket facing each other were placed on the outer surface of palatal button (Fig 1c). These Begg's bracket can be used for engagement of elastics to facilitate de rotation or any other orthodontic movement (Fig 2).

The advantage of this modification is that derotating elastics can be easily placed with effective couple arm length. Bilateral and multiple teeth rotation can be addressed at the same time which shortens the treatment time. Modifications can be done in the appliance to be used as habit breaking appliance. Other uses include tipping movement of maxillary anterior teeth and eruption guidance of labially placed maxillary canines.

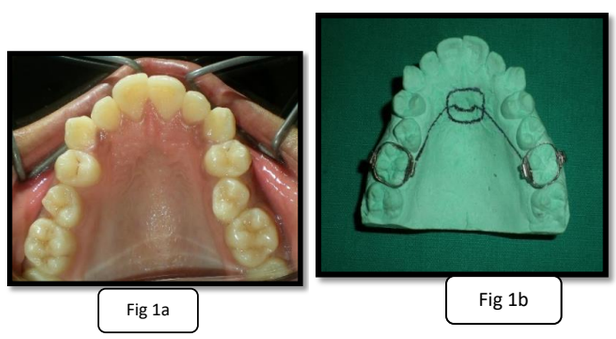

Fig 1a: Case with rotated 15 ,25. **Fig1b:** Marking for NPB with bands in situ.

Fig 1c: NPB fabricated with Beggs Bracket (shown by arrows).


Fig2: NPB in situ with e-chain. **Fig 3:** Derotation of premolars complete

DISCUSSION

Dayashankar et al[3] proposed a modification in nance palatal button used for correcting severe rotation of premolars as well as for correction of tongue thrusting habit in pre-adolescent patients. 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. However, with this modification there are chances of patient discomfort soft tissue trauma due to projecting hooks which is eliminated in our modification. Sunda et al [4] published another modification in nance palatal button involving an anterior bite plane with an acrylic button to which elastomeric chain was attached to inverted Begg's bracket. This design served the purpose of controlling the anchorage and derotation simultaneously. However, the derotation achieved was only unilateral. The present modification in nance palatal button is a novel method saving clinical treatment time by utilising its anchorage advantage alongside producing an active tooth movement by incorporating two beggs brackets. Beggs bracket being smaller in size can be effectively used for engaging derotating couple elastics for single or multiple teeth rotations. As beggs brackets are secured sturdily, multiple breakages can be avoided. Better patient acceptance and no discomfort because of smaller size of the brackets and multiple brackets placement for multiple tooth derotation are some of the advantages of the modification. Derotation was achieved in 5 weeks without any side effects encountered with the modified nance button in the sample case shown in this paper.

CONCLUSION

The modified Nance palatal button is a novel method which is easy to fabricate and is helpful in achieving early levelling and alignment by derotation of premolars or any other teeth there by decreasing the total treatment time with a better patient comfort.

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