Scissor bite correction for the second molars using simplified RM appliance

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Abstract

Correction of scissor bite often become a challenging task due to repetitive bonding failure and dependence on patient cooperation in wearing elastics.This article reports the successful treatment method of scissor bite using a simplified RM appliance.

Key words: RM appliance, scissor bite, orthodontics

INTRODUCTION

Buccally erupted maxillary second permanent molar is one of the most common single tooth posterior crossbite encountered in orthodontic practices, and its management is indeed a challenging situation.[1]

The conventional treatment approach for correction of such crossbite makes use of transpalatal arch (TPA), intra- or inter-arch latex cross-elastics. All these mechanics can produce an unwanted extrusion of the second molars, as these mechanics involve a vertical force vector.[2] Furthermore, inter-arch elastic exerts a reciprocal effect on the molars of the same side of the arch, which might be an unwanted side effect especially when the lower molar is in a normal and ideal alignment/or position. Therefore, cross elastics should be avoided in cases where the second molar has already overerupted, have hanging palatal cusp, or in patients with high mandibular plane angles.

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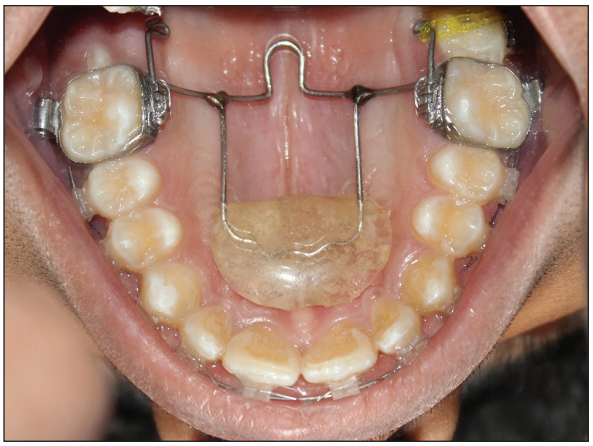

Figure 1: The RM appliance for bilateral scissor bite correction

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Figure 2: The RM appliance for unilateral scissor bite correction

Figure 3: After alignment of the buccally placed second molar

There has been literature on the successful use of a modified TPA that creates an intrusive force along with lingual traction, without having extrusion on the tooth. However, such a design or appliance system necessitates an additional effort of raising the bite using glass ionomer cement bite block.

Herein, we present a more simplified and an effective method that can be used to correct such crossbite.

STEPS OF FABRICATION

1. A TPA is fabricated using 20 gauge hard round stainless steel wire.
2. The stub of TPA is extended posteriorly toward mid of the second molar to be corrected and bent palatally to have a hook-like extension at the end. This helps in engaging the elastomeric module.
3. Anterior bite plate is fabricated and soldered to the TPA. This helps in disocclusion of the posterior teeth.
4. The modified TPA with the anterior bite plate is then finally soldered to the molar band of the first molar.
5. The appliance is then cemented intra-orally, and the elastomeric module is attached to the upper second molar tube on the buccal side to the hook of TPA extension palatally.

This approach offers several advantages:

- Simple design.
- No need for additional effort to raise the bite.
- The force is directed along the long axis of the second molar's palatal root.
- Intrusive force along with lingual traction to treat these buccal crossbites without having extrusion of tooth which is unwanted side effect of inter-arch cross elastics
- Reduced chair side time.
- Co-operation from patient is not required for wearing elastics.
- Can be used for correction of both unilateral [Figure 1] and bilateral second molar crossbite [Figure 2].

Figure 3 shows the occlusal photographs of the second molar after correction of bilateral scissor bite.

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Conflicts of interest

There are no conflicts of interest.

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