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Case Report

Introducing a Simple Technique for Using Inter-Maxillary Cross Elastics on Banded Molars without Palatal Cleats

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Abstract

Posterior cross bite is a common malocclusion that could occur prior or during active orthodontic treatment. It may affect one tooth or more unilaterally or bilaterally. This problem could be properly addressed in the treatment plan if it already existed before the beginning of the treatment. On the other hand; a single-molar posterior cross bite may be unintentionally developed during active orthodontic treatment. In this unplanned situation, using inter-maxillary cross elastics could solve the developed cross bite. The cross elastic could be attached either to palatal cleats of banded maxillary molar or to a button bonded palatally in case of bonded maxillary molar. The main hustle in developing a single-molar cross bite during active orthodontic treatment is that it was not planned for from the beginning. Thus, both the mentioned modalities may not be easily feasible during active orthodontic treatment, as the already placed molar's band may not have cleats for the cross elastics to be attached on, and replacing the maxillary molar's band with buccal tube and palatal button may be an obstacle during treatment. Thus, introducing here a simple technique to tackle this problem without the need for hindering the active orthodontic treatment.

Keywords: Posterior Crossbite; Inter-Maxillary; Cross Elastics; Banded Molar

Introduction

The presence or development of posterior cross bite related solely to the upper molars during active orthodontic treatment is a common clinical that is occasionally faced in our practice. This single molar cross-bite could be solved by using inter-maxillary cross elastics attached either to palatal cleats of banded molar or to buttons bonded palatally in case of bonded molar.

Nevertheless, one of the challenging conditions occurs when the cross bite is developed during active treatment and after reaching heavy rectangular arch wires. The solutions, then, are limited especially when molar bands without cleats have been originally used from the beginning of the treatment (Figure 1).

The band could be replaced either by a new band with cleats, or by a molar tube bonded buccally and a button bonded palatally. But this will result in dropping down of the arch wire to a more flexible and smaller one, as the new band or the bondable tube would never be placed at the same accurate position as the tube of the original molar band. Thus, leading to an increase in the treatment duration, besides more arch wires would be used.

(a) (b)

Figure 1:

(a) Lateral view showing a posterior cross bite related to upper right first molar during active orthodontic treatment while using heavy rectangular arch wire.

(b) Occlusal view showing that the band used is without cleats.

Purpose of the Study

The purpose of this study is to present a practical option for using inter-maxillary cross elastics in molars bands that don't have palatal cleats.

Case Report and Discussion

A.H. is a fourteen years old male patient who developed a posterior cross bite related to upper right first molar during active orthodontic treatment.

The solution included using inter-maxillary elastics attached from palatal aspect of upper first molar till buccal aspect of lower right first molar. The main problem was that the used molar bands were without palatal cleats. Either replacing the band with a new band that have palatal cleats, or replacing the band with labial tube and palatal button could solve this problem.

Introducing, here, a new technique to solve this problem without the need to replace or remove the band. This technique is accomplished by using an extra oral round wire with a diameter of 0.9 mm. The wire should be bent to have a safety end palatally, passing proximally over the contact point between upper first and second molars to be inserted buccally in the headgear tube. Then it is adapted buccally to lie parallel to the occlusal plane at the level of the height of contour of the upper first molar. The wire afterwards has to be cinched mesial to the headgear tube to secure the wire from slippage (Figure 2 and 3).

(a)

(b)

(c)

Figure 2: Study model can be used to help in fabrication of the wire.

(a) and (b); Occlusal view showing the position of the wrapped-around wire.

(c) Palatal view showing the safety bend.

Figure 3: Occlusal and lateral views showing the technique.

An increment of adhesive was then added to cover the cinched part of the wire to avoid any soft tissue trauma and to secure the wire in its place; preventing it from any play inside the tube. Another increment of adhesive was used to stabilize the wire proximally; with the caution that the adhesive should not touch the upper second molar in order to prevent its movement with the adjacent upper first molar (Figure 4).

(a) (b)

Figure 4: Intra oral pictures showing the technique.

(a) Lateral view showing the increment of adhesive covering the cinched wire to avoid soft tissue trauma.

(b) Occlusal view showing the increment of adhesive stabilizing the wire proximally.

An inter-maxillary cross elastic was then attached to the fabricated palatal arm of the upper first molar to the buccal hook of the lower first molar (Figure 5).

Figure 5: Lateral view after attaching an inter-maxillary cross elastic.

The patient was instructed to wear inter-maxillary cross elastics (size 3/16 medium, 4.5 Oz) for 4 weeks.

The patient didn't complaint from any problem or complications during this time [1-3].

Conclusion

This technique has effectively solved a common problem without the need to hinder the treatment (Figure 6).

Figure 6: Lateral views showing the treatment progress till finishing.

Conflict of Interest

There is no financial interest or any conflict of interest exists.

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