

Modified Transpalatal Arch for Molar Intrusion

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Abstract:

A simple modification of transpalatal arch to overcome the problems caused by conventional transpalatal arch.

Key Words: Ancillary TPA, injuries by TPA, modified TPA

Introduction

Transpalatal arch has become an integral part of orthodontics, this auxiliary appliance is used widely to change or stabilize the position of the maxillary molars in all three-dimensions. Versatile nature of the appliance has been marked by its use in arch width maintenance, correction of molar rotations, root torquing, reinforce anchorage, expansion of molars, distalization of molars, intrusion of molars.¹

The main purpose of using transpalatal arch during intrusion of maxillary posteriors or maxillary molars is to prevent the buccal tipping of the posterior teeth (Figure 1 a and b).²

The most common problem encountered with the use of transpalatal arch during maxillary molar, or posterior intrusion is soft tissue irritation. The transpalatal wire should not encroach either on the tongue or on the tissue of the hard palate. During an intrusion of maxillary posteriors or molars, if the transpalatal arch comes close to the palate, the transpalatal arch may become embedded in the palatal tissue causing pain and discomfort (Figure 2).^{1,3} The transpalatal arch must be removed to allow for the healing of the tissue. The modified transpalatal arch suggested in this article is to overcome the problems of transpalatal arch during maxillary posterior or maxillary molar intrusion.

Fabrication

The versatile transpalatal arch can be fabricated by 0.036" elgiloy or stainless steel wire extending from the molar to molar with a "U" loop on either side of the arm (Figure 3). The "U" loops are constricted to keep the transpalatal arch away from palatal tissue (Figure 4).

Discussion

During an intrusion of maxillary posteriors, when intrusive forces are applied from the buccal side, the maxillary posteriors tend to tip buccally. In such instances, transpalatal arch is used in order to prevent the buccal tipping of the posteriors. However, transpalatal arch poses the risk of coming close to the palatal tissue and getting embedded in the palatal tissue. Hence, a modification is necessary for transpalatal arch to overcome this problem. The versatile

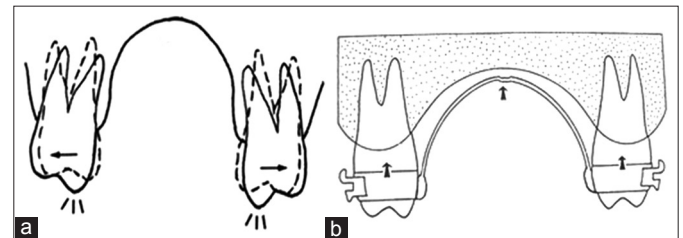


Figure 1: (a) Buccal tipping of the molars during intrusion, (b) transpalatal arch to prevent buccal tipping.

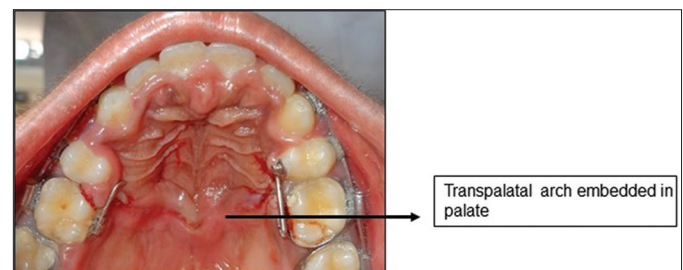


Figure 2: Transpalatal arch embedded in the palate.



Figure 3: Modified transpalatal arch.

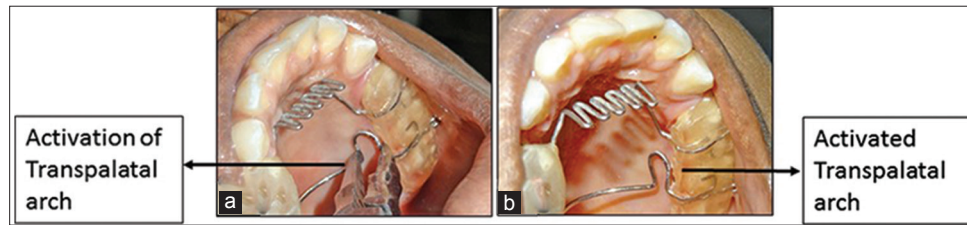


Figure 4: (a) Activation of the modified transpalatal arch using universal plier (b) activated transpalatal arch.

transpalatal arch consists of 2 “U” loops, one on either side of the arm. These “U” loops can be adjusted by constriction of the loops to keep the transpalatal arch away from the palatal tissues.

Conclusion

A simple modification of transpalatal arch as mentioned above can eliminate the problems caused by conventional transpalatal arch. It helps in avoiding discomfort and pain to the patients as well as fabrication of new transpalatal arch.

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