Bracket Ligation with a Difference

Mala Rammanohar

ABSTRACT
Successful and early completion of alignment and derotations goes a long way in reducing treatment time. With the prevalent use of superelastic wires, efficient ligation of the wire into the bracket slot becomes very important. Conventional ligation either fails to seat the wire firmly into the slot or exerts excessive force leading to failure of the bond. A modified figure of ‘8’ ligation for speedy correction of rotated teeth is suggested.

Keywords: Ligation, Derotation, Figure, Eight, Alignment.

How to cite this article: Mala RM. Bracket Ligation with a Difference. J Ind Orthod Soc 2014;48(4):286-287.

Source of support: Nil

Conflict of interest: None

Accepted after Revision: 6/1/14

INTRODUCTION

The first stage in the treatment of malocclusions with multi-bonded appliances is leveling and aligning. This stage mainly requires derotation of teeth within the arch to facilitate the insertion of progressively larger and stiffer wires. Also, the success of retraction of anteriors with sliding mechanics depends on the efficient derotation and alignment of all the teeth within the arch. The speedy completion of this stage to a great extent has a bearing on the final treatment time.

The use of superelastic wires in this stage has helped to simplify the mechanics and has gained popularity on account of ease of use and convenience to the patient and clinician alike. Clinicians have taken to these wires for aligning the arch in spite of the risk of application of unwanted forces and moments to adjacent teeth. The key to effective derotation is the complete ligation of the wire into the bracket slot.

However, ligation of severely rotated teeth even to superelastic wires is not always easy leading to use of very small dimension wires and loss of control of other teeth in the arch and multiple wire changes. Ligation of a single wing with elastomeric rings is ineffective due to the laxity of ligation. Mirzakouchaki B1 recommended an alternative method which increased the tension of the module and resulted in better ligation of the wire into the bracket.

Chawla et al2 recommended an alternative ligation method where the elastomeric modules were threaded on to the wire. However, this method was not effective in firmly ligating the wire into the bracket.

METHODOLOGY

The method recommended here uses a modified figure of eight configuration to ensure better ligation of the wire into the bracket by increasing the tension of the elastomeric module, at the same time preventing excessive ligation force and risking bond failure. It ensures faster transition to the regular figure of eight ligation that ensures complete derotation. This method has been used by the author for the last couple of years and has proved successful in derotating anteriors and premolars alike. A stepwise description of the technique is presented herein.

• Step I: Place the elastic module over one wing of the bracket of the rotated tooth preferably the one closer to the wire (Figs 1A and D).

• Step II: Bring the module over the wire from the gingival or occlusal, in a figure of ‘8’ fashion including the wire and place over the other wing or the more distant or second wing (Figs 1B, C, E and F).

DISCUSSION

This method increases the tension of the elastomeric module and effectively ligates the superelastic wire into the most deviated wing ensuring faster derotation. It is also interesting to note what happens at the less deviated wing. Here, the wire presses against the slot of the bracket and elastic module pushing it in the opposite direction thereby facilitating the rotational correction.

The method recommended by Chawla et al2 does not ensure firm ligation into the bracket slot. They also recommended threading multiple modules for repeated ligation to avoid removal of the wire, but the modules are likely to deteriorate from exposure to saliva and temperature changes rendering them ineffective.

Mirzakouchaki’s1 method is a more effective way of ligating the wire. A figure of ‘8’ ligation is the most effective way of securing the wire into the bracket slot. The method described here is a variation of the figure of ‘8’ and hence easier to apply.
CONCLUSION

This modification has many advantages:

- It ensures early ligation of the more distant wing with adequate force.
- The wire presses against the module at the less deviated wing pushing it in the opposite direction thereby hastening the derotation.
- The modules can be changed without removing the wire.
- Faster transition to the regular figure of ‘8’ to complete the derotation.
- Faster derotation.

REFERENCES