New Attachment for Bonding Impacted Teeth in Closed Eruption Approach

Abhishek Kshetrapal, Ankur Kaul

INTRODUCTION

Through decades, various attachments have been used to successfully bond impacted teeth when using closed eruption technique. Some of the most commonly used attachments are the brackets, buttons, eyelets welded to band materials, etc. However, certain problems, like bond failure leading to another flap surgery or tearing of the alveolar mucosa because of the prominence of the attachment, have remained consistent. The main reasons for bond failure include lack of proper isolation, improper adaptation of the attachment to the exposed tooth surface, incomplete curing of composite adhesive, among others.

To minimize these disadvantages and make bonding of such teeth more predictable, a simple and inexpensive attachment technique has been developed.

TECHNIQUE FOR ATTACHMENT FABRICATION AND BONDING

As soon as the surgeon raises the flap, making the impacted tooth visible, the orthodontist evaluates the tooth surface and depending on the size and contour of the area exposed, bends an 0.016 inch Australian SS wire, giving it a Figure of ‘8’ shape (Fig. 1). Contour this wire with the help of Howe’s plier to adapt on to the exposed tooth surface as closely as possible. Form a chain with a 0.010 inch ligature wire and thread the ligature chain through the open end of ‘8’ as shown in Figure 2. After threading the ligature, close the open end of the ‘8’ by compressing with Howe’s plier.

Now take a minute amount of composite resin and apply it to the smaller of the two circles of the bent figure of ‘8’ (Fig 3). This attachment is carried to the etched enamel surface and placed there. Any thick consistency composite can be used to bond the attachment in place.

The smaller circle is completely encased in composite and the larger circle is used to attach the wire chain which is used to pull the tooth into alignment (Fig. 4). Test the strength of bonding by pulling the ligature with firm pressure and let the surgeon close the flap.

DISCUSSION

The need for better and easier bonding methods has led to various innovations in bonding materials and methods. The procedure described here has a number of advantages over the
previously prevalent methods: The composite resin gets fully cured as light does not need to be transmitted underneath any mesh. Size and contour of the attachment is custom made according to the tooth surface exposed. Full view of the tooth surface during curing helps minimize blood and tissue fluid seeping through edges of the bracket base. Natural tooth/bone like contour of the outer surface of the attachment minimizes tissue tearing or irritation. Larger surface area coverage leads to increased bond strength. The attachment is inexpensive, easy to fabricate with lower incidence of allergy than the nickel containing metals.

Although the problems, such as of difficult access and isolation, breakage of ligature tie, etc. faced with other types of attachments, would be faced in this technique too but these can be minimized due to direct access to the exposed tooth surface. And its relative inexpensive nature adds to its relative applicability in such cases.

REFERENCES