PRACTICE PAPER

Modified Begg's Retainer with Incorporated Delta Clasp

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ABSTRACT

A Begg's retainer normally does not have any clasps to retain the appliance. The lack of the clasps in the molar region compromises the retention of the appliance. The retention of the appliance can be significantly enhanced by incorporating retentive loops of delta clasp built in continuous series. The disadvantage of a useful retention appliance can be very easily overcome by incorporating simple retentive loops.

Keywords: Begg's retainer, delta clasp, hawleys appliance, wrap around retainer

INTRODUCTION

Retention is required mostly after orthodontic tooth movement as the teeth moved have a tendency to relapse. Retaining the teeth with the help of either removable or permanent retainers helps remodel the gingival fibres and supporting tissues around the teeth and prevent relapse. Out of many types of appliance Hawleys design is the most popular. Another type of retainer appliance that has added advantage over the Hawley appliance is Begg's retainer. Retention appliance should be removable and not depend on the teeth for retention. If the retention depends on the teeth which is still unstable then there is a chance that retainer itself may become unstable.[1,2]

A modification of Begg's wrap around retainer has been suggested in this article. The wrap around retainers has a drawback of compromised retention as it does lack the clasps on the molars. To overcome this disadvantage delta clasp have been fabricated in the molar region.

METHODOLOGY

Begg's retainer is a prototype of circumferential retainer. This type of retainer was devised for the Begg's technique and it avoids molar clasp. The Begg's retainer surrounds the dentition from buccal aspect acting as fence to prevent relapse. The retentive arms come from behind the last erupted molars to reduce the occlusal interferences. This appliance has the advantage that the absence of the molar clasps permit better settling of the occlusion but good appliance retention is compromised.[3-5]

The retentive loops of the delta clasp are made in series with either no or single crossover wire. The loops and the anterior bow are made as the conventional Begg's retainer. The bow in this case should be made with 0.9 mm wire preferably as the wire span between the two retentive arms is large (Fig. 1, 2 and 3).

Figure 1: Begg's retainer with delta clasp

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Figure 2: Intraoral maxillary appliance

Figure 3: Intraoral mandibular appliance

The advantage of fabricating a delta clasp into the Begg's retainer greatly improves the retention of the appliance. The circular retentive loops are less prone to breakage and provide excellent retention. Furthermore the retention can be enhanced by fabricating more than two retentive loops built in continuous series. The appliance is simple in design and easy to fabricate.

DISCUSSION

Most commonly prescribed appliance for post orthodontic retention is Hawley's appliance. The Hawley retainer is a custom made retention device and constitutes of a labial bow of round stainless steel 0.020 to 0.036 inch wire. The labial bow usually contacts the four or six maxillary anterior teeth. Posteriorly the appliance consists of two clasps to provide retention.[6,7]

When first premolar has been extracted then the retainer should not open the spaces that have been closed by orthodontic treatment. Unfortunately the design of the Hawley retainer is such that occlusal crossover wire passes through the extraction site. The occlusal wire has a tendency to wedge and open the space between the canine and premolar. To avoid this modified Hawley appliance was made in which the labial bow was soldered to the bridge of the Adams clasp. The clasp location for the Hawley appliance should be carefully selected since the clasp wire crossing the occlusal table can disturb the occlusion established during treatment.[8] The clinician often alters the type and position of retention clasp to avoid occlusal interferences. The wire components of the clasp or labial bow should not pass through extraction site as there is a tendency for space to reopen because of wedging action of the cross over wire. Circumferential or wrap around retainer provide excellent retention without any occlusal interferences.[9]

In this appliance the delta clasp has been built into the buccal labial wire of Begg's bow. The delta clasp was introduced by Clarks and is similar to Adams clasp. The delta clasp has the basic elements of the Adams clasp that is interdental tags, retentive loops and buccal bridge. The main difference is that instead arrowheads delta clasp has circular or triangle shaped retentive loops. Delta clasp is better than Adams clasp as it does not open on repeated insertion and removal and is less prone to breakage as acute bends are avoided.[10]

Another advantage of delta clasp is that more than two retentive loops can be built in series to enhance retention. It is similar to Adams clasp with additional arrowheads. The circular retentive loops of the delta clasp are better than the arrowheads of the Adams clasp as there is less stress concentration and less prone to breakage (Fig 4 and 5).

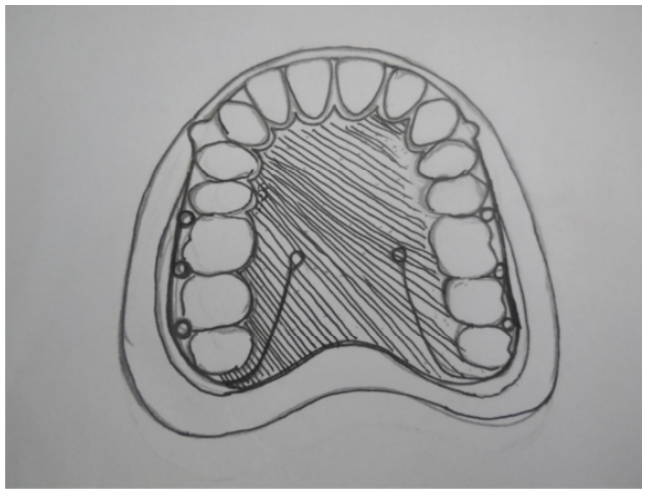

Figure 4: Diagram showing additional retentive loops to enhance retention

The appliance can be removed by the patient by holding the bridge between the retentive loops as in case of Hawleys retainer. In most of the circumferential retainers the patient tends to remove the appliance by holding the bow anteriorly. This wrong practice of removing the appliance can result

Figure 5: Side view of the appliance

in distortion of the wire component. In this modification patient has a bridge for convenient removal of the device. The appliance is made with 0.9 mm wire as the span of wire is long between the retentive arms. Bow made from lower gauge wire is very flexible and is prone to distortion. For adjusting the appliance the retentive loops can be bent towards the clasping molars. The anterior bow should be in the middle third of the crown and should be passively touching the labial surface of the teeth. The disadvantage of Begg's retainer can be easily rectified by incorporating retentive loops of delta clasp in the molar region. This simple modification makes the appliance even more efficient and users' friendly.

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