Double-loop de-rotator

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Abstract

Rotation of a tooth means labial and lingual movements of a tooth around its long axis. It is most evident when viewed from an occlusal perspective. This article describes a simple and economical technique to de-rotate a severely rotated tooth.

Key words: Couple force, de-rotation, rotation

INTRODUCTION

Rotation of a tooth means labial and lingual movements of a tooth around its long axis.[1] It is most evident when viewed from an occlusal perspective [Figure 1].

The only force system that can produce pure rotation (a moment with no net force) is a couple, which is two equal and opposite and parallel forces, but non-collinear.[1]

De-rotation of a tooth is necessary for:
1. Orthodontic leveling and alignment.
2. Prosthodontics and restorative purposes.

In cases of severe rotations (>90°) it is very difficult to bond attachments for proper application of couple forces due to inaccessibility to surfaces or size of attachments. In such cases, multiple repositioning of bonded attachments will be required during de-rotation of tooth.

This article describes a simple and economical technique to de-rotate a severely rotated tooth to create space for palatally impacted canine.

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FABRICATION OF DOUBLE-LOOP DE-ROTATOR

It is made up of thick ligature wire (0.009˝). It is twisted around explorer to make loops at either end [Figure 2].

Steps in bonding of de-rotator

1. Separators were placed to get clearance for bonding [Figure 3].
2. Loop of de-rotator was bonded on labial and lingual surface of rotated tooth with routine bonding procedure [Figure 4].
3. Connector of de-rotator is contoured on the proximal surface.
4. Couple force system was applied to tooth with elastic thread/ E-chain on other loop of de-rotator [Figures 4 and 5].

Figure 1: Rotated tooth (>90°)

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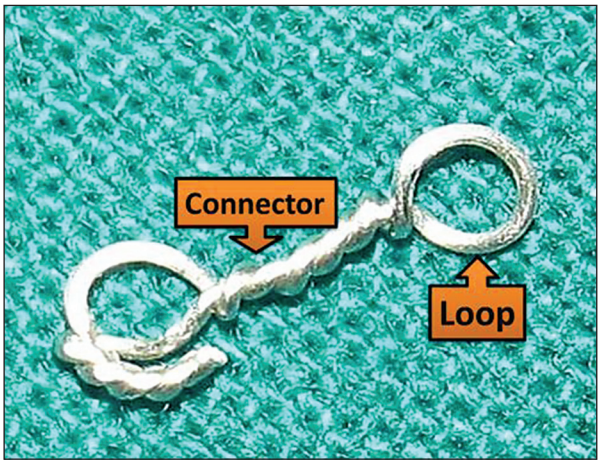

Figure 2: Double-loop derotator

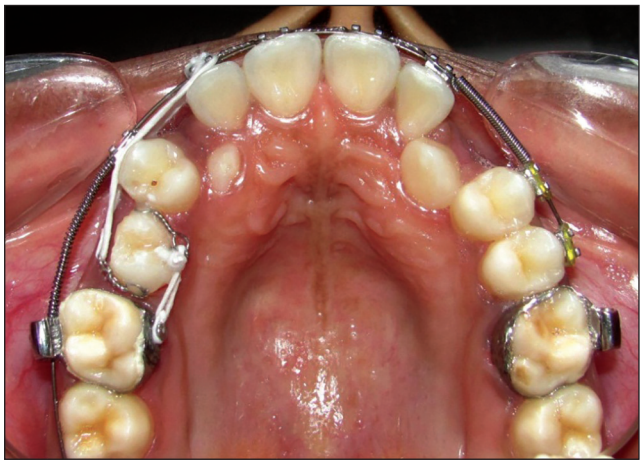

Figure 4: Bonded derotator and application of couple force

Figure 6: Complete alignment of impacted canine

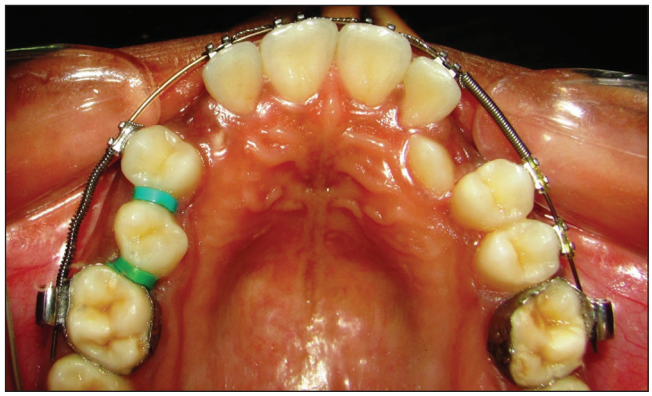

Figure 3: Separators for clearance

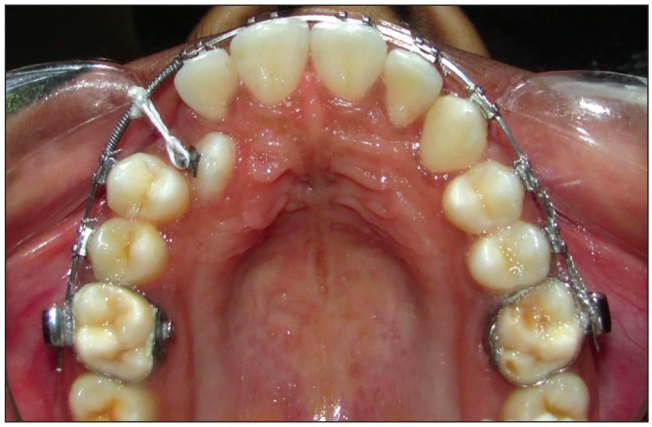

Figure 5: Derotation completed and alignment of impacted canine started

Complete de-rotation of tooth shown in Figure 6.

Advantages

1. Simple and economic technique.
2. No need of repositioning of attachments.

Limitations

1. Like any other procedure involving bonding it is technique sensitive and proper moisture control is a must.
2. Undue heavy forces can lead to debonding of the attachment.

REFERENCE

1. Smith RJ, Burstone CJ. Mechanics of tooth movement. Am J Orthod. 1984;85:294-307.

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