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Case Report

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180 degrees rotated maxillary lateral incisor: a case report

Abstract

Variations in alignment of teeth among adults are present and widely cited in the literature, complete tooth rotation on its own axis (180 degrees) however not a commonly observed condition is. In this article, a unique case of a healthy patient with a 180 degree rotated maxillary lateral incisor will be presented and addressed from an esthetic point of view.

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Introduction

Tooth anomalies could be caused by several factors which play a role in determining the level of malalignment present, these include genetics, nutrition, trauma, over retention of primary teeth, parafunctional movement of the jaws and habits, these include the oral environment and occlusal forces, genetics Teeth movement, rotation and tipping are prevalent conditions observed in many individuals during adolescence or even adulthood. Despite the presence of several articles in the literature citing varying degrees of malalignment, complete 180 degrees rotation of the maxillary lateral incisor is not reported up to our knowledge. This case report aims to present a unique case of 180 degree rotation of a maxillary lateral incisor.

Case report

A 41 year old healthy patient presented to the division of restorative and esthetic dentistry at Beirut Arab University seeking bleaching treatment of the upper and lower arches. After examination it was observed that the patient had a completely rotated maxillary left lateral incisor in 180 degrees with the palatal surface facing labially as shown in Figure 1 & Figure 2. Radiographic examination showed no abnormalities in root form (Figure 3). The medical history showed no abnormalities and the patient did not remember any incident of trauma to the face. According to the patient there were no family members who presented with a similar condition. Nevertheless, the patient was not aware of this anomaly before we informed him during the examination; therefore he refused any orthodontic or restorative treatment. His chief complaint was still the dark color of his teeth and not the rotated lateral incisor. Therefore, the most conservative treatment was followed which is bleaching on all the teeth including the palatal surface of the tooth number 22 which was facing labially. Scaling and root planning was first performed followed by impressions for fabrication of bleaching trays. In office bleaching was performed using 38 % hydrogen peroxide (Power Bleaching XTRA, Whitesmile, Birkenau, Germany) as shown in Figure 4. The bleaching process was assisted with an LED device. Four consecutive 15 minute sessions of bleaching were performed; this included complete removal of the applied material and the application of a fresh mix for every session.

Shade assessment was performed using Vita Classic Shade Guide. The results showed immediate improvement moving from shade A3 to shade A1. Pre and post-operative photographs are shown in Figure 5 and Figure 6. Maintenance of this result depended on the effectiveness of the utilization of the home bleaching kit and commitment to the post-operative instructions which included most importantly abstinence from colored foods, liquids and smoking for 2 weeks following the bleaching procedure.[1–7]

Figure 1 Occlusal view.

Figure 2 Side view. Notice the rotation's effect on esthetics when viewed from the opposite side.

Discussion

Reports in the literature of 180 degree rotation can be found in the case of maxillary premolars and lower central incisors. Cases regarding the rotation of the maxillary central incisor were also reported by Nanjannawar et al.,[8] and Jain et al.[9] Many of these cases include spacing and malalignment which allowed for the rotation to take place; It is rare to find a completely rotated tooth with no gaps in-between or malalignment of the adjacent teeth. Moreover, with

regards to a maxillary lateral incisor, the axial inclination of the tooth may determine whether the tooth will be of esthetic concern to the patient or not. In this case, the patient was not aware of his rotated tooth until this was demonstrated to him with the photographs. The lightened palatal surface of tooth number 22 decreased the amount of shades present and provided an illusion of a straight surface when observed facially. The patient immediately appreciated the improvement after he observed the photographs. The stained palatal pit however (which in this case was facing facially) still persisted after scaling and the bleaching treatment, a fissurectomy followed by resin composite application could better contribute to the esthetic outcome of the treatment. According to Vuori,[10] patient's satisfaction should be mentioned when assessing the outcome of any treatment and in this case the patient was satisfied with the results and expressed his gratitude for performing a minimal invasive treatment giving the illusion of straight tooth without placement of restorations such as veneers or crowns.

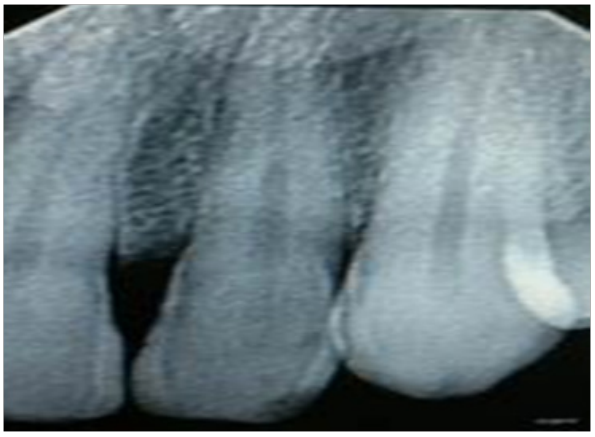

Figure 3 Radiograph showing tooth # 22.

Figure 4 During the application of the hydrogen peroxide.

Various treatment modalities exist to address such unique cases, these include orthodontics, restorative and prosthodontics work. However, it is always important to take the patient's chief complaint into consideration and in many cases the anomalies which dentists observe and diagnose as esthetic dilemmas may not be of immense concern to the patient. Therefore, in such cases it is important to provide the most conservative treatment that can address the patient's chief complaint.

Figure 5 Front view.

Figure 6 After bleaching, notice the remaining palatal pit on tooth 22.

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Conflict of interest

The author declares that there is no conflict of interest.

References

1. Costa B, Lins C, Tavares M. Rotation of 180 degrees of a lower incisor: case report. *Braz J Morphol Sci*. 2012;29:114−116.
2. Morgan GE. Prolonged retention: When should healthy deciduous teeth be extracted? *JADA*. 1938;25(3):358−363.
3. Shapira Y, Kuftinec MM. Tooth transpositions—a review of the literature and treatment considerations. *Angle Orthod*. 1989;59(4):271−276.
4. Seipel CM. Variations of tooth position: a metric study of variation and adaptation in the deciduous and permanent dentitions. *Sven Tandlak Tidskr*.1946;39:369−372.
5. Nayak G, Singh I. A Variation in tooth position-180° rotated maxillary second premolar. *J Clin Diagn Res*. 2013;7(8):1806−1807.
6. Tay M. Rotated maxillary second premolars two cases with 180 degree rotation. *Br Dent J*. 1968;124(7):326.

7. Harris F. Commentary: Rotated premolars. *Dental Anthropology*. 2006;19:74−78.

8. Nanjannawar S, Gadodia B, Kamat B, et al. Esthetic correction of rotated maxillary central incisor by conservative approach. *World J Dent*. 2016;7(4):217−220.

9. Jain S, Narang P, Sharma R, et al. The aesthetic management of a 180 degree rotated maxillary central incisor with two root canals-a case report. *J Clin Diagn Res*. 2013;7(5):968−969.

10. Vuori H. Patient satisfaction–an attribute or indicator of the quality of care? *Qual Rev Bull*. 1987;13(3):106–108.

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