

Mini Review

Management of Multiple Retained Deciduous Teeth with Concomitant Impaction and Intraosseous Migration in Adult Patient: Case Report

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Abstract

Exfoliation of primary teeth is essential for the normal development of dentofacial region. But there are variety of reasons is present that would be responsible for the exfoliation of primary teeth. Impaction of mandibular incisor is not so frequently seen and it may be due to an abnormal eruption path, presumably because of unusual orientation of the tooth germ. This article demonstrates the management of retained deciduous teeth with other in adult patient.

Keywords: Multiple retained deciduous teeth; Impaction; Intraosseous migration; Adult

Introduction

Retention of primary teeth beyond their exfoliation period is not so common. Variety of reasons is present that attributed to delayed exfoliation of primary teeth like insufficient space, crowding of arches and rotation of tooth buds. Lack of eruptive force can be the reason for unerupted tooth when the normal number of teeth is present radiographically [1,2]. Apart from this there are varieties of syndromes, metabolic, and hormonal disorders are also other causes of multiple impacted permanent teeth [3]. It is very uncommon to see impacted mandibular incisor. It may see occasionally due to an abnormal eruption path, presumably because of unusual orientation of the tooth germ [4,5]. This article demonstrates the management of retained deciduous teeth with impaction and migration of teeth in adult patient.

Diagnosis and Treatment Plan

A 20-year, 9-month-old female came with the chief complaints of irregular placement of upper and lower teeth (Figure 1). The patient's face was symmetrical, but the unesthetic smile line, a convex profile, and competent lips. The patient was of normal build with no previous medical or dental history. She had no relevant family history. The patient had multiple retained deciduous teeth with irregular placement of permanent teeth and peg shaped maxillary lateral incisors. A panoramic radiograph (Figure 1) showed an impacted lower left central incisor and right second premolar which intraosseous migrated and touches the mesial root of right mandibular first molar. We measured

an overjet of 2 mm and an overbite of 10mm. Cephalometric analysis indicated a skeletal Class I relationship.

Treatment Objective

Treatment objectives were first to extract the retained deciduous teeth and intraosseous migrated mandibular right second pre-molar and create space for impacted mandibular left central incisor and align the teeth to achieve a stable functional occlusion with a pleasant smile.

Treatment Progress

After the extraction of all retained deciduous teeth, placement of 0.022" × 0.028" Roth prescription brackets was done and intraosseous migrated right mandibular second premolar was surgically removed. After 2 weeks (Figure 2) cantilever spring (0.017 TMA × 0.025 TMA) was ligated on left side maxillary canine and 0.014 NiTi rest of the maxillary arch. In mandibular arch lingual holding arch was placed in between mandibular molars and elastic traction was applied on right mandibular first premolar to move the tooth buccally. After 2 months 0.018 NiTi wire was ligated in mandibular arch. As we reaches the on wire 0.017 × 0.025 stainless steel arch wire we placed an open coil spring between mandibular left lateral incisor and right central incisor to create the space for impacted mandibular left central incisor and as the tooth erupts align the impacted tooth initially by placement of 0.014 NiTi arch wire progressed to 0.017 × 0.025 stainless steel arch wire (Figure 3).

Treatment Results

After a total 21 months of treatment, both the arches were well aligned, the overbite and overjet were normal, and Class I molar relationships had been established (Figure 4). The upper incisor display on smiling was normal, with some gingival display promoting the appearance of a youthful smile. SNA and SNB was unchanged indicating favorable mandibular growth. Lower left second premolar extraction area healed properly without any complication. As there is need for the prosthetic buildup of peg shaped lateral incisors, but patient refused to do so, and she was very satisfied with her treatment. Patient follow up was done after one year of treatment (Figure 5).

Discussion

There are so many indications for the extraction of retained

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Figure 1: A 20-Year-old female patient with multiple retained deciduous teeth with peg shaped lateral incisors and impacted mandibular left lateral incisor and right second premolar before treatment.



Figure 2: After the 3 weeks of removal of mandibular right 2nd premolar, Cantilever spring (0.017 TMA × 0.025 TMA) was ligated on left side and 0.014 NiTi ligated in maxillary arch. E-traction applied on mandibular right first pre-molar.

primary teeth and they include increasing mobility, clinical symptoms, pathology, unfavorable position and poor aesthetics [6]. But before any clinical procedure patients with retained primary teeth should be carefully assessed with all available treatment options. Usually retained deciduous teeth has been associated with systemic disorder but their presence must be discarded in this case morphology and location of teeth permanent teeth can be different in the dental arch as Mason, et al. [7] reported displacements, rotations, ectopic eruption, and malocclusion in their studies, some alterations we noted in this clinical case. In this case crowding exists and an extraction is necessary in order to align the arch orthodontically, and it is usually common to extract the retained primary teeth so we preferred extraction of retained deciduous teeth, extraction of unfavorable impacted tooth,

and correction of impacted tooth and closed the space. There are so many reasons for extraction of a second premolar that include the presence of caries or large restorations, malformed or abnormally small teeth, agenesis of one or more other second premolars, and severe local displacement [8]. Mandibular second premolars rank third, after third permanent molars and maxillary permanent canines, in frequency of impaction [9]. The prevalence of impacted premolars has been varying according to age and overall prevalence in adults has been reported to be 0.5% [10]. Our patient, showed intraosseous migrated lower right second premolar that impinged the mesial root of mandibular right first molar so extraction of this impacted tooth was required to prevent the further root resorption, relieve lower crowding and if we attempted to correct the impacted tooth it might



Figure 3: Alignment continue in maxillary arch and 0.018 NiTi ligated in mandibular arch and space was created for impacted mandibular left central incisor with the placement of open coil NiTi spring and rotation was corrected with the placement of 0.014 NiTi arch wire and progressed till 0.019 × 0.025 stainless steel wire.



Figure 4: After 21 months of active treatment, patient achieved esthetically pleasing smile with well aligned maxillary and mandibular arches.

have led to resorption of the adjacent root and this supported by Andreasen, et al. [11] who suggested that surgical exposure should be confined to cases, both maxillary and mandibular with no more than 45° tilting and limited deviation from the normal position. In this case multiple retained deciduous teeth were thought for responsible factors of mandibular incisors impaction. For the management of impacted mandibular incisor remove the multiple retained deciduous teeth, create space and promote eruption with orthodontic traction. Because the patient showed excellent cooperation during treatment, we expected continued compliance during the retention phase.

Conclusion

Extraction of multiple retained teeth and correction of impacted teeth can be an effective way of treatment in adult cases. Sometimes

correction of impacted tooth is impossible due to position of tooth and in a same case correction of impacted teeth is advisable, so both. As this article shows, the result can be a functionally and esthetically stable occlusion with a pleasant smile line with the interdisciplinary approach.

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Figure 5: Patient follows up after 1 year of Retention.

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