

Case Report

Unilateral Soft Tissue Impaction of Maxillary and Mandibular Permanent Premolars: A Case Report

Syed Wali Peeran, PG Naveen Kumar, Syed Ali Peeran, Khaled Awidat Abdalla

Abstract

Tooth impaction is frequently observed anomaly of eruption and is often the sole complaint of young patients visiting dentists. Sometimes there can be impaction of teeth within the soft tissues. Soft tissue impaction may be caused by the presence of thick covering of oral mucosa or the lack of inherent eruption force. The purpose of this article is to review the principles of case management of soft tissue impacted premolars and to illustrate their potential to respond well to the treatment. Although the scope of treatment may depend on a varying range of factors, this case report demonstrates the inherent potential for good treatment outcome in cases of soft tissue impactions.

Key words: Premolar impaction; Unerupted Tooth; Soft Tissue Impaction; Gingivectomy.

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Introduction

Impaction is often described as “a tooth whose crown is submerged in gingival tissues, and whose normal movement into the mouth is obstructed by an object in its path (most commonly another tooth)”. At times it may remain unerupted under a sheet of thick mucosa with or without minimal interference from its adjacent teeth. Tooth impaction is frequently observed anomaly of eruption and is often the sole complaint of young patients visiting dentists.¹ If a tooth has erupted out of the jaw bone but not through the gumline, it is termed as soft tissue impaction. The impaction of premolar may be caused by loss of space due to early extraction of deciduous second molars, resulting in the mesial drift of permanent molars and the ectopic position of the tooth bud, obstacles to eruption such as an ankylosed primary molar, the presence of supernumerary teeth or odontomas and genetic factors.^{2,3} The purpose of presenting this case is the uniqueness and lack of similar cases reported in literature.

Case report

An 18 years old girl reported to the Department of Periodontology, Faculty of Dentistry, Sebha University, Sebha, Libyan Arab Jamahiriya with a complaint of pain in the right upper and lower back teeth region since six months. Her past medical history was not significant. She has no history of dental extractions or orthodontic treatment. On clinical examination, right maxillary

premolars and right mandibular premolars covered by oral mucosa were seen. Right Maxillary molars had significant amount of calculus, which was seen enveloping the occlusal surface. Both the maxillary and mandibular first molars showed occlusal caries (Fig 1a & b).

Radiographs confirmed the presence of all permanent teeth and also revealed that the premolars on the right side were in infra occlusion (Fig 1c). In addition pre treatment radiographs also showed of calculus deposits. They also showed complete root formation without any hindrance in their path of eruption, and were covered only by the soft tissue and lacked any alveolar component covering them. It was also noted that the patient had for a long period of time used only the left side for chewing.

Based on the clinical examination and radiological findings, the initial therapy of thorough scaling and root planning followed by surgical removal of the covering soft tissue under local anaesthesia was planned.

Prior to the surgery, routine examinations like blood and urine analysis were carried out. The results were found to be within normal limits. Under local anaesthesia, an external bevel gingivectomy⁴ was carried out and the excised tissue was sent for histopathological examination. Immediate post surgery revealed both right maxillary and mandibular premolars lying just below

the soft tissue (Fig 1d & e). The patient was recalled after eight days and the wound had healed uneventfully. A conservative wait and watch approach was followed to allow significant time for the premolars to erupt to

the normal occlusion.⁵ Proper oral hygiene instructions were given. Histopathological assessment of the excised specimen revealed a normal oral mucosa with no pathologic deviation.

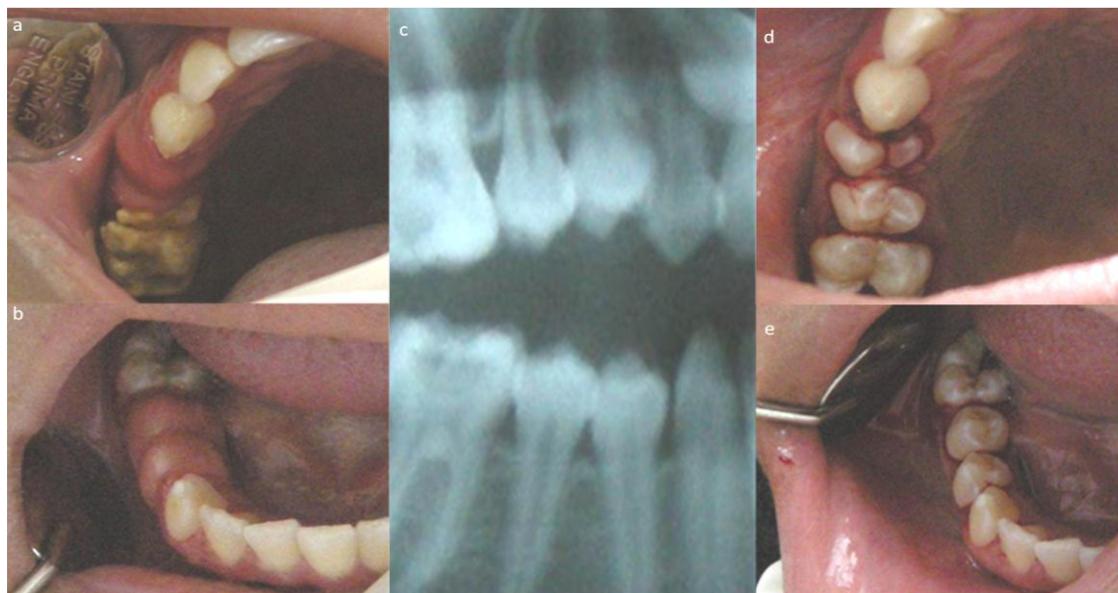


Figure 1: Clinical photographs showing the pre-operative (a & b) and post-operative (d & e) soft tissue impacted mandibular and maxillary premolars along with a segmental radiograph shows premolars in infra occlusion (c).

Discussion

The actual term "soft tissue impaction" refers to how deep the tooth lies in the jaw. A soft tissue impaction means that the tooth lies just beneath the gum tissue and no bone will have to be removed to extract the tooth.

According to Jain U. & Kallury⁶ (2011), the most common cause of mandibular second premolar impaction is premature loss of deciduous predecessor. The other causes leading to this problem include, over-retained or infraocclusal and ankylosed primary molars; ectopic positioning of the developing premolar tooth buds; or pathology such as inflammatory or dentigerous cysts; extrinsic obstructions, such as supernumerary teeth and odontomas. Impaction of the premolars may also be associated with, thick and fibrous gingival tissue or with syndromes such as Cleidocranial dysostosis.⁶

In the present case the cause of impaction was overlying thick and fibrous gingival tissue and the patient was non-syndromic. The histopathologic assessment of the tissue sections also showed a normal oral mucosa with no pathologic deviations. The gums around the area may show signs of infection such as redness, drainage, and

tenderness, which is common in the impacted third molar region.⁷ There was no sign of redness or infection except for the calculus covered on mandibular first molar in the case presented here.

Comprehensive scientific studies of treatment modalities for impacted premolars are lacking, especially of the soft tissue premolar impactions, presumably due to their low rate of occurrence. As the literature does not contain reported cases of soft tissue impaction of premolars, comparing the case with earlier precedents was not possible.

Although the overall success rates in cases such as that discussed above have not been clearly documented, a gingivectomy procedure followed by an adequate time allowed for the teeth to erupt may provide a minimal-invasive and cost effective approach.

Conclusion

Unerupted teeth if left untreated with a thick oral mucosa may undergo pathologic changes, hinder in chewing process, lead to food impaction or may result in a carious lesion of the teeth. This case report helps us

appreciate the benefits of minimal intervention in such cases.

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