

Surgical removal of impacted deciduous molar with caries

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SUMMARY

Impaction is pretty an uncommon process in the deciduous dentition. The etiology of deciduous tooth impaction is not known and, if there is an indication, optimal treatment is surgical removing or extraction. A 20-year-old male presented with a complaint of chronic infection in the maxillary right premolar region. The maxillary right first premolar was absent. Orthopantomograph and computed tomography revealed an impacted maxillary right deciduous molar embedded within cyst close to the anterior wall of the maxillary sinus and missing maxillary permanent first premolar. The impacted tooth and cyst were removed under local anesthesia. Caries was detected on the impacted tooth. A dentigerous cyst was shown on histopathological examination. The presence of caries on the impacted deciduous tooth indicated it had previously erupted. To our knowledge, no case, involved in impacted deciduous tooth with caries in dentigerous cyst, has been reported in the literature. The aim of this case report was to present the diagnosis and treatment of impacted deciduous molar with caries in dentigerous cyst.

Key words: Caries, deciduous molar, dentigerous cyst, impacted tooth

ÖZET

Gömülü çürük süt azı dişinin cerrahi olarak çıkarılması

Gömülü kalma, süt dentisyonda oldukça seyrek görülen bir durumdur. Süt dişlerinin gömülü kalma nedenleri tam olarak bilinmemektedir ve endikasyonu varsa optimal tedavi cerrahi olarak çıkarılmasıdır. 20 yaşında erkek hasta, kliniğimize sağ üst premolar bölgesinde kronik enfeksiyon şikayeti ile başvurdu. Sağ üst küçükazı dişinin olmadığı görüldü. Ortopantomograf ve bilgisayarlı tomografi tetkiklerinde sağ üst küçükazı dişinin olmadığı ve maksiller sinüsün ön duvanı ile komşu, gömülü sağ üst süt molar dişini içine alan kist izlendi. Gömülü diş ve kist lokal anestezi altında çıkarıldı. Gömülü dişte çürük olduğu tespit edildi. Histopatolojik inceleme kistik yapının dentigeröz kist olduğunu ortaya koydu. Gömülü süt dişinde çürük olması, dişin daha önce sürmüş olduğunu göstermektedir. Bildiğimiz kadarıyla dentigeröz kist içinde bulunan ve çürüğü olan gömülü süt azı dişi daha önce literatürde yayınlanmamıştır. Bu olgu sunumunun amacı, dentigeröz kist içinde bulunan, çürüğü olan gömülü süt azı dişinin tanı ve tedavisini sunmaktır.

Anahtar kelimeler: Çürük, süt molar diş, dentigeröz kist, gömülü diş

Introduction

Tooth impaction mean failure to erupt appears to be due to physical and biological factors and the tooth remains unerupted beyond the normal time of eruption (1). Impaction has been reported to be very rare in the deciduous dentition. The most commonly impacted is the deciduous second molar followed by the maxillary and mandibular central incisors, the primary canines and the lateral incisors (2-6). When there is a clinical absence of one or several teeth, and the history indicates that they have not been extracted, then partial anodontia or tooth impaction should be considered. Developmental disturbances as an anodontia can be genetic or environmental factors. Trauma, precocious eruption of the first permanent molar, congenitally missing permanent teeth, defects in the periodontal membrane, ankylosis, odontoma or a combination of these factors may play role in the impaction of deciduous molar (7-9). The etiology of deciduous molar impaction is still unknown and SEM studies of the root surfaces of extracted secondary teeth have shown most of these teeth to be ankylose (10).

Occurrence of the dentigerous cyst as a result of unerupted deciduous teeth is extremely rarely reported in the literature (11). A dentigerous cyst encloses the crown of an unerupted tooth, attaching to the neck of the tooth and grows by expansion of its follicle. Dentigerous cysts may cause free large bone defects, the most common complication such as recurrent pericoronitis, cyst development, unrestorable caries. Consequently the preferable optimal treatment is surgical extraction (12).

There have been some case reports about an impacted deciduous tooth, but only one case reported was associated with reimpaction of deciduous molar in literature. The aim of the present case report was to deduce totally reimpacted maxillary deciduous molar with caries in dentigerous cyst, considered as a rarity in dental practice.

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Case Report

A 20-year-old male referred to our department with a complaint of chronic infection in the maxillary right premolar region. There was no history of trauma to maxillofacial region. Intra-oral examination revealed the maxillary right first premolar tooth was absent and the cusp of impacted maxillary right deciduous molar was observed (Figure 1). The occlusal plane was noted in Class III molar relationship and also maxillary right premolar and lateral, and right permanent lateral teeth were absent. The family and medical histories were non-contributory.



Figure 1. Intraoral view of patient with fistulae

The panoramic radiograph and history of patient confirmed that these teeth were congenitally absent (Figure 2). Orthopantomograph and computed tomography revealed an impacted maxillary right deciduous molar embedded within cyst close to the anterior wall of the maxillary sinus and missing maxillary permanent first premolar.

The treatment consisted of routine treatment procedures; the extraction of the impacted deciduous molar because of embedded within cyst and caries.

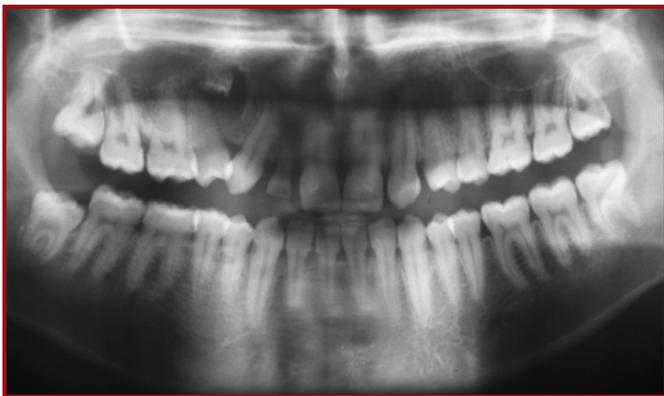


Figure 2. Preoperative orthopantomograph showing impacted deciduous molar



Figure 3. Extracted specimen

The impacted tooth and cyst were removed under local anesthesia (Figure 3). During the surgery of impacted deciduous tooth a minor communication with the maxillary sinus was noticed. The wound was closed with 3-0 silk suture material and the surgical procedure was completed. There were no complications following surgery.

Histopathological examination revealed the dentigerous cyst. The presence of caries on the impacted deciduous tooth indicates it has previously erupted.

Discussion

Impaction of deciduous molar is considered a very rare phenomenon in the literature (4,10-13). Although the majority of impacted teeth are seen in the permanent dentition, it is nearly uncommon in the deciduous dentition, with a reported prevalence ratio of 1:10.000 (14). According to Bianchi and Rocuzzo (15), prevalence of primary teeth impaction is same with Krough et al (14), 1:10.000. The least common impacted deciduous tooth is the first molar (16). In this case report, maxillary first deciduous tooth is presented.

The impaction may be primary, refers to teeth that have never erupted due to some etiologic factors as stated above, or it may be reimpaction (secondary impaction), in which, due to ankylosis, the teeth after eruption are re-implanted (9). As it is stated in literature (9), the impaction may be primary, meaning the tooth has never erupted due to some reasons (as known as primary failure of eruption) or it may be secondary impaction, in which the tooth after eruption is reimpacted. To our knowledge, no case, involved in impacted deciduous tooth with caries in dentigerous cyst, has been reported in the literature. The presence of caries on the crown indicates this tooth has previously erupted. Reimpaction of deciduous of a tooth is a rare situation where it was in primary dentition.

Also, Antoniadis et al. (10) and Rasmussen et al. (9) reported reimpaction of teeth cases.

Dentigerous cysts are the second most common odontogenic cyst after radicular cyst. Dentigerous cysts involve impacted, unerupted permanent teeth, supernumerary teeth, odontomas and rarely deciduous teeth. They are generally asymptomatic, being found on routine dental radiographic examination (12,17). In this case, maxillary deciduous molar was in dentigerous cyst, 1.5 cm diameter. Surgical removal was preferred as stated in literature (1).

According to literature, etiologic factors including trauma, precocious eruption of the first permanent molar, congenitally missing permanent teeth, defects in the periodontal membrane, odontoma, and ankylosis may play role in the impaction of deciduous molar (7,8). From all of the cited etiological factors, ankylosis seems to be involved in the majority of cases and may explain why it has previously erupted. Cildir et al. presented a case report which included an eight and a half-year-old-child with a compound odontoma located in the mandible, which caused the impaction of both primary and permanent canines (7). They surgically removed compound odontoma, and permanent lateral was erupted spontaneously.

In this case, the preferable treatment option was extraction because of embedded within dentigerous cyst and caries. Also the germ of the impacted deciduous molar caused the maxillary right premolar into a malposition.

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