

## DENTİGERÖZ KİST TEDAVİSİ SONRASI GÖMÜLÜ KALICI DİŞLERİN SÜRMEŞİ: BİR OLGU SUNUMU

### ERUPTION OF IMPACTED PERMANENT TEETH AFTER TREATMENT OF A DENTIGEROUS CYST: A CASE REPORT

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#### Özet

Dentigeröz kistler, daimi ve sürmemiş dişlerin kronları ile ilişkili çene kemiğini etkileyen en yaygın görülen ikinci odontojenik kistlerdir. Sıklıkla mandibulada görülür. Dentigeröz kist daha çok mandibular üçüncü molar ve maksiller kaninlerde görülmesine rağmen nadiren diğer dişlerde de ortaya çıkabilir. Dentigeröz kistler genellikle asemptomatiktir ve genellikle rutin radyolojik muayene sırasında tesadüfen teşhis edilir. Bu olgularda ilk tercih edilen tedavi enükleasyon olmasına rağmen, sürmemiş daimi dişleri içeren kistler için marsüpyalizasyon daha iyi bir tedavi seçeneğidir. Bu olguda 8 yaşındaki erkek hastadan alınan panoramik radyografide, sol mandibular süt molar bölgede daimi diş germelerinde içerisine alan sınırları düzenli radyolüsent görüntü veren patolojik kitle izlendi. Klinik muayenede, ilgili bölgede şişlik ve ekspansiyon izlenmiştir. Daimi diş germeleri etkilendiği için radiküler kist ön tanısı olan kitle marsüpyalizasyon ile tedavi edilerek daimi dişlerin kök gelişimi ve sürmesi sağlandı. Çocuklarda süt dişleri ile ilişkili olarak görülen dentigeröz kistlerde marsüpyalizasyon tedavisinin tek başına uygulanarak takip edilmesi daha konservatif bir yaklaşım olabilmektedir.

**Anahtar Kelimeler:** Dentigeröz kist, enükleasyon, marsüpyalizasyon, karışık dentisyon

#### Abstract

Dentigerous cysts are the second most common odontogenic cysts affecting the jaw bone that are associated with the crowns of permanent unerupted teeth; frequently located in the mandible. Dentigerous cysts is more usually seen with mandibular third molar and maxillary canine and rarely other teeth are involved. Dentigerous cysts are usually asymptomatic and it is generally diagnosed incidentally during the routine radiological examination. Even though enucleation is the treatment of choice, marsupialization is the better option for cysts involving unerupted permanent teeth. In this report, Eruption of impacted permanent teeth after treatment of a dentigerous cyst: A case report are presented. In this case, an 8-year-old male patient had a pathological mass in the left mandibular primary molar teeth region with a regular radiolucent appearance, including the permanent tooth germs, on panoramic radiographs. On clinical examination, swelling and expansion were observed in the region. Since the permanent tooth germs were affected, the mass with a preliminary diagnosis of radicular cyst was treated with marsupialization, and the development and eruption of the permanent teeth were ensured. It may be a more conservative approach to follow the marsupialization treatment alone in dentigerous cysts associated with primary teeth in children.

**Keywords:** Dentigerous cyst, enucleation, marsupialization, mixed dentition

#### İletişim Adresi

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#### Introduction

Dentigerous cyst (DC), so known as follicular cyst, is the second most common form of odontogenic cysts after radicular cyst (1).

The cystic lining is derived from the epithelial remnants of tooth enamel organ (2). Information on the prevalence of this disease is restricted. It is more common among males, and usually occurs in the second and third decade of life. Other common locations of DC are the third

molar teeth of the maxilla, the maxillary canines, supernumerary teeth and the premolars of both jawbones (3).

DC are generally asymptomatic and found incidentally during the evaluation of an unerupted tooth (4). However, after a long duration, it is likely to cause important bone resorption, cortical expansion, and tooth displacement. If the patient has infection and expansion, they become symptomatic. It may reason displacement of adjacent teeth and resorption of teeth roots.

Enucleation and marsupialization are the best options to treat a DC. The first is the process in which the cyst is totally removed without rupture; this is generally indicated for small cysts (5). Marsupialization is a conservative surgical intervention that decreases the size of the cyst gradually. The procedure involves making a window on the cystic epithelium by incision, evacuation of the contents of the cyst, and suturing the cystic lining to the oral mucosa. It has advantages in promoting eruption of the cyst-associated tooth with or without orthodontic traction. On the other hand, the disadvantages of marsupialization include the long duration of treatment and leaving the larger part of the cystic lining in situ (6).

The aim of the present study is to present a clinical case of a DC in a child patient that was successfully treated by marsupialization.

## Case Report

8-year-old male patient reported to the Department of Oral and Maxillofacial surgery with a chief complaint of swelling and pain which was enlarging slowly on left side of mandible since last 1 month, leading to facial asymmetry. He was systemically healthy and extraoral examination was within normally. On intraoral examination was a swelling in 73-74-75 teeth regions and obliteration of the buccal vestibule. The mandible left premolars were clinically unerupted. In the panoramic radiograph, an oval-shaped, unilocular radiolucency was noticed around the developing premolar with a radiopaque border. (Figure 1)

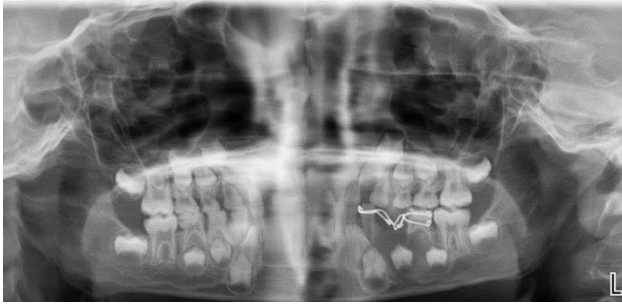


**Figure 1.** Preoperative Panoramic Radyograph Treatment was started after obtaining informed consent from the patient. A preventive approach was followed to preserve the developing 1<sup>st</sup> and 2<sup>nd</sup> premolar. Therefore, marsupialization of the lesion was planned through the extracted socket of grossly decayed deciduous 1st molar to create a window allowing continuous drainage of the cystic content (Figure 2).



**Figure 2.** Intraoral view

Follow-up examination revealed the follow after 1 month, there was slight occlusal movement of the developing tooth bud, but there was no apparent reduction in the radiolucency. After 1-6 months, there was further occlusal movement of the developing tooth and there was a huge reduction in the radiolucency. (Figure 3-4)



**Figure 3.** Postoperative panoramic radiograph (1. mouth)



**Figure 4.** Postoperative panoramic radiograph (6. mouth)

### Discussion

A dentigerous cyst is a cyst which mostly encloses the crown of an unerupted teeth, expands the follicle, and is attached to the cemento-enamel junction of the teeth. Benn and Altini categorized these cysts as developmental and inflammatory (7). The developmental type results from impaction of mature tooth and predominantly involves the mandibular third molars.

Radiographically, DC are suspected when the size of the follicular space is larger than 5 mm. Panoramic radiograph and upper occlusal radiograph are recommended as first-line diagnostic tools and further evaluation of the lesion by computed tomography examination (8). Radiographic examination showed as a unilocular radiolucency with a well-defined sclerotic border engulfing the crown of an

impacted teeth. In the case described in this report, the most probable cause of the DC could be the nonvital deciduous first molar.

Even though enucleation is the preferred treatment for DC, marsupialization is the best option for large cystic lesions in pediatric patients and even elderly patients who usually have systemic diseases, because it can reduce the cyst cavity and preserve the tooth involved with the cyst (5). Our patient was the preferred treatment of marsupialization. Because enucleation in such case would sacrifice two impacted permanent teeth in a child. Tooth loss at a young age will affect the occlusion, function, and esthetic appearance. Furthermore, enucleation carries a risk of trauma to the mandibular nerve in addition to a large postoperative bone defect (9).

### Conclusion

This case report shows the necessity for early diagnosis and treatment of impacted permanent teeth associated with a dentigerous cyst. Marsupialization is an effective surgical technique, even for an infected cyst. Pre-adolescent patients and their parents must understand the importance of good oral hygiene for a successful treatment outcome.

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