

Case Report

Eruption cysts: A series of two cases

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ABSTRACT

Eruption cysts are benign cysts that appear on the mucosa of a tooth shortly before its eruption. They may disappear by themselves but if they hurt, bleed or are infected they may require surgical treatment to expose the tooth and drain the contents. Here we present 2 case reports of eruption cysts presenting with different chief complaint. The treatment included incising the eruption cyst and draining the contents of the cyst.

Key Words: Diagnosis, eruption cyst, treatment options,

INTRODUCTION

The eruption cyst is a form of soft tissue benign cyst accompanying with an erupting primary or permanent teeth and appears shortly before appearance of these teeth in the oral cavity^[1] It is a soft tissue analogue of the dentigerous cyst, but recognized as a separate clinical entity.^[1]

Dentigerous cyst develops around the crown of an unerupted tooth lying in the bone, the eruption cyst occurs when a tooth is impeded in its eruption within the soft tissues overlying the bone.^[2]

The exact etiology of occurrence of eruption cyst is not clear. Aguilo *et al.* in their retrospective clinical study of 36 cases, found early caries, trauma, infection and the deficient space for eruption as possible causative factors.^[3]

Although there are a number of theories about their origin,^[4] both seem to arise from the separation of the epithelium from the enamel of the crown of the tooth due to an accumulation of fluid or blood in a dilated follicular space.^[5]

Extensive review of literature reveals a low prevalence of eruption cysts. The clinical impression of low prevalence may also be due to the fact most often the dentist sees only symptomatic eruption cysts and the majority resolve unnoticed.^[1] Anderson reported on 54 cases over 16 years, which were histologically confirmed.^[1] Aguilo *et al.* reported on 36 cases in their retrospective study of 15 years.^[3] Later, Bodner found a prevalence of eruption cysts of 22% among various maxillary cystic lesions in 69 children.^[4] Recently, in 2004, Bodner *et al.* once again presented 24 new cases of eruption cysts.^[6]

Eruption cyst and hematoma usually present in first and second decades.^[7] Reports show that most eruption cysts occur in an age range of 6–9 years, a period coinciding with the eruption of permanent first molars and incisors.^[1,3]

Eruption cyst occurs most frequently on the right side than left and among males than in females.^[1] However, according to Pinkham no gender predilection is present.^[7]

Aguilo *et al.* in their study, have shown that 2.8% of eruption cysts occurred in the incisal and molar areas, the remaining 17.2% occurred in the canine-premolar areas.^[3] Other reports have also suggested that majority of eruption cysts occur in the incisal and molar areas, followed by canine and premolar areas and the preference for the incisal rather than the molar area in a ratio of 2:1 could be based on their greater visibility in the incisal area.^[1]

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Clinically, the lesion appears as a circumscribed, fluctuant, often translucent swelling of the alveolar ridge over the site of the erupting tooth. When the circumcoronal cystic cavity contains blood, the swelling appears purple or deep blue; hence, the term “eruption haematoma”.^[8] Differential diagnosis is hemangioma, neonatal alveolar lymphangioma, pyogenic granuloma, amalgam tattoo.^[7]

On radiographic examination, it is difficult to distinguish the cystic space of eruption cyst because both the cyst and tooth are directly in the soft tissue of the alveolar crest and no bone involvement is seen in contrast to dentigerous cyst in which a well-defined unilocular radiolucent area is observed in the form of a half moon on the crown of a non-erupted tooth.^[1]

Histologically, this cyst presents the same microscopic characteristics as the dentigerous cyst, with connective fibrous tissue covered with a fine layer of non-keratinized cellular epithelium.^[1]

Majority of these cysts disappear on their own and usually does not require any treatment. If they hurt, bleed or are infected they may require surgical treatment to expose the tooth and drain the contents.^[9]

CASE REPORTS

We hereby report two cases of eruption cyst of patients who reported to the Out Patient Department of Swami Devi Dyal Dental College and Hospital, Barwala.

Case 1

An 8 year old male child along with his parents reported to the Department of Pedodontics with the chief complaint of bluish black swelling on the gums in the front region of the upper jaw [Figure 1]. Parents of the child were fearful; assuming the lesions to be malignant tumor. History of the case revealed that 61 was extracted 1 year back due to caries. The lesions started appearing 2 weeks back as translucent swellings over normal mucosa and it slowly increased to its present size. The color of the lesions also slowly changed from its normal red mucosa to the present bluish black color 1 week back. No fluid discharge or any other associated symptoms were associated. The general physical examination of the child showed no abnormalities. There was no history of any acute infection, trauma, and drug or food allergy in the recent past. Examination of the oral cavity revealed that the child was in the mixed dentition stage. All

the permanent 1st molars had completely erupted and all incisors except 21 were in various stages of eruption. Carious lesions were present with respect to 52, 62 and 73. Soft tissue examination did not show any abnormalities except, the presence of gingival swelling with respect to 21. Clinically the gingival lesions appeared as bluish-black, circumscribed, fluctuant swellings on the buccal gingiva over the site of un-erupted 21. Swelling measured approximately 1.5 × 2 cm and was very soft and fluctuant. The overlying mucosa was smooth and no ulceration was present. X-rays of the lesions confirmed the presence of 21 in the stage of eruption and there were no signs of bone involvement or any radiolucency surrounding this tooth. It was clinically and radio graphically diagnosed as eruption cyst with 21.

The clinical condition was explained to the parents and they were advised to observe the swellings for another 2 weeks as it may rupture on its own and may not need any surgical intervention. Patient reported after 15 days. The swelling was still present and dull aching pain was present on mastication. The surgical procedure was explained to the parents and consent was obtained for the same. A blood investigation was carried out before the procedure. The treatment included incising the eruption cyst with BP blade and draining the contents of the cyst. A window was cut leading to the exposure of 21. Post operative instructions were given [Figure 2].

The patient was reviewed after one week and a normal eruption pattern was observed.

Case 2

A 8½ year female patient reported to the department with the chief complaint of an bluish black discoloration along with a swelling in upper anterior region [Figure 3]. The patient and her parents were concerned about the unaesthetic appearance. Lesion started appearing 2 months back as translucent swelling over normal mucosa and it slowly increased to its present size. It was associated with dull aching pain on mastication.

The general physical examination of the child showed no abnormalities. Examination of the oral cavity revealed that the child was in the mixed dentition stage. All the permanent 1st molars had completely erupted and all central incisors except 21 were erupted.

Swelling measured approximately 2.5 × 2.5 cm and was very soft and fluctuant. The overlying mucosa was

smooth and no ulceration was present. X-rays of the lesions confirmed the presence of 21 in the stage of eruption and there were no signs of bone involvement or any radiolucency surrounding this tooth. It was clinically and radio graphically diagnosed as eruption cyst with 21.

Surgical exposure was carried out and the tooth was exposed. It showed normal eruption thereafter [Figure 4].

DISCUSSION

Eruption cyst is the soft tissue analogue of the dentigerous cyst, but recognized as a separate clinical entity.^[1] Clinically, eruption cyst appears as a dome shaped raised swelling in the mucosa of the alveolar ridge, which is soft to touch and the color ranges from

transparent, bluish, purple to blue-black.^[1,4] The color of the cyst ranged from reddish black to bluish.^[10]

On radiographic examination, it is difficult to distinguish the cystic space of eruption cyst because both the cyst and tooth are directly in the soft tissue of the alveolar crest and no bone involvement is seen in contrast to dentigerous cyst in which a well-defined unilocular radiolucent area is observed in the form of a half moon on the crown of a non-erupted tooth.^[1]

Histologically, this cyst presents the same microscopic characteristics as the dentigerous cyst, with connective fibrous tissue covered with a fine layer of non-keratinized cellular epithelium.^[1]

Mostly, the eruption cysts do not require treatment and majority of them disappear on their own.^[2,5] Surgical intervention is required when they hurt, bleed, are infected, or esthetic problems arise.^[1,4] Treatment has to be performed in order for the child to lead a



Figure 1: Pre-operative photograph showing eruption cyst with respect to 21



Figure 2: Incision given and 21 is exposed



Figure 3: Pre-operative photograph showing eruption cyst with respect to 21



Figure 4: Incision given and 21 is exposed

healthy and comfortable life. The relatively high rate of such cysts and the fact that they occur in an area of rapid developmental change suggests the need for a conservative management in the young patient population. Interventional treatment may not be necessary because the cyst ruptures spontaneously, thus permitting the tooth to erupt.^[4] If this does not occur, simple excision of the roof of the cyst generally permits speedy eruption of the tooth.^[4] Simple incision or partial excision of the overlying tissue to expose the crown and drain the fluid is indicated when the underlying tooth is not erupting or the cyst is enlarging.^[10]

In case 1, wait and watch phenomenon was initially observed as it was not associated with any discomfort and it was expected to erupt on its own. But after 15 days when the patient reported back again the cyst was still increasing in size. Therefore, incision and surgical exposure of the crown was performed.

In case 2, partial excision of soft tissue followed by compression of cyst was done as the cyst was large in size and long standing. It was present for a long time, associated with pain and gradually increased in size thus indicating surgical exposure.

A novel treatment modality suggested by Boj *et al.*, consists of use of Er, Cr-YSGG laser for treatment of eruption cysts. Advantages over conventional lancing with scalpel include non-requirement of anesthesia, minimum operative bleeding and patient comfort.^[11] The high equipment cost and technique sensitivity of the procedure limits its use in clinical practice.

CONCLUSION

Disturbances of the dental development may result in anomalies which many times appear in the form of swelling of the overlying mucosa of the erupting deciduous or permanent teeth, mostly in children. Eruption cyst is one such lesion associated with

erupting teeth which on numerous occasions, due to its size or peculiar, purple-blue or bluish black color may result in tumor scare among the patients or concerned parents of a child. Knowledge among clinicians is very essential regarding this clinical entity to provide appropriate treatment.

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