

Lateral Dentigerous Cyst: A Case Report

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Abstract: Dentigerous cyst is the most common type of cyst encountered in a dental practice. Though, it is commonly encountered entity in the second and third decade of life, cases have been reported in the first decade of life, too. It may be symptomatic or asymptomatic and is diagnosed on routine examination. The treatment modality depends on the size and location of the cyst. For a smaller cyst not approximating the vital structures, enucleation is carried out. If there is a risk of damage to vital structures in a large cystic lesion, marsupialisation is carried out. This case report presents a case of lateral dentigerous cyst in a 10 year old female associated with unerupted premolar. Enucleation of the cystic lesion was carried out without extracting the unerupted tooth. A seven month follow up revealed eruption of the tooth in the oral cavity with no signs of recurrence.

Keywords: Dentigerous cyst, developmental, inflammatory, enucleation, unerupted tooth,

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I. Introduction

Dentigerous cyst is the most common type of developmental cyst seen. It is defined as the cyst that originates by the separation of the follicle form around the crown of an unerupted tooth.[1] These cysts form between the enamel epithelium and the enamel of the crown of the affected tooth, and the fluid accumulation occurs in the related area.[2- 4] About 20% and 24% in all the jaw cysts are dentigerous cysts.[5] They are generally associated with an impacted tooth and develop after the complete formation of the crown. [6] They most commonly involve the mandibular third molars or the maxillary canine, followed by the mandibular premolars. The ages of twenties or thirties are the most common periods when the ages of the dentigerous cyst cases are considered whereas these cysts are rare in the first decade.[7,8]

Various treatment options have been proposed for the management of dentigerous cyst. Two most common treatment modalities used are: (1) total enucleation for small lesions, and (2) marsupialization for decompression of large of large volume cysts, or a combination of both.[9, 10]

This case report presents a case of lateral dentigerous cyst in the first decade of life, which is a rare occurrence, and enucleation as a treatment modality.

II. Case Report

Case details: A 10- years old female reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of pain and swelling in the lower right back region of the jaw. Clinical history revealed that patient had undergone pulpectomies with lower left second primary molar and lower right first and second molars, 2 years back. Routine general history and examination revealed no past medical history, history of trauma or family history. Extra oral examination was negative for any swelling but submandibular lymph nodes on the right side were palpable and tender. On intra oral examination, a small, intra oral sinus (about 2X2 cm in diameter), was seen associated with the second primary mandibular molar on the right side [Fig 1A]. Fractured restoration was seen with second primary molar with mobility seen with primary first and second molars [Fig. 1B]

Diagnosis: Panoramic radiograph was advised and it revealed the presence of a unilocular radiolucent cystic lesion with sclerotic border associated with the mandibular right second premolar [Fig 2]. The radiolucency, of about 3-4cm in diameter, was seen related to the crown and root of the unerupted second premolar, on the lateral aspect. A provisional diagnosis of Lateral Dentigerous Cyst was reached, after clinical and radiologic evaluation. Considering the size of the lesion and no approximation to vital structures, enucleation of the cyst was considered to be the best treatment of choice.

Surgical Procedure: The surgical intervention was carried out under local anesthesia. The primary mandibular right second molar was extracted [Fig. 3] to open up the cystic cavity. Once the tooth was extracted and cystic cavity could be identified, the contents of the cyst were removed, leaving and without damaging the unerupted second premolar [Fig.4]. After complete enucleation [Fig. 5], sutures were placed [Fig. 6] and post operative instructions were given to the patient.

Recall: The patient was recalled after 8 days for suture removal. Follow up was scheduled regularly, initially after 1 month and later on, every 3 months. After 7 months, premolar was seen to be erupted in the oral cavity [Fig. 7]. Radiographic evaluation revealed a healing lesion and initiation of bone formation [Fig. 8]. No sign of recurrence was seen.

III. Figures



Figure 1A: pre operative picture showing swelling (circled) with



Figure 1B: pre operative. Fractured restoration seen with



Figure 2: pre operative panoramic



Figure 3: extraction of the primary second molar



Figure 4: enucleation of the cyst



Figure 5: complete enucleation



Figure 6: sutures



Figure 7: second premolar erupted in the oral cavity



Figure 8: panoramic radiograph showing a healing lesion

IV. Discussion

Dentigerous cysts are common developmental cysts. These cysts can attain considerable size with minimal or no symptoms and hence, early detection and removal of the cysts is important to reduce morbidity. Although evidence in the literature suggests that dentigerous cysts occur more frequently during the second decade of life [11, 12], these lesions can also be found in children and adolescents, i.e. 4–9% of these cysts occur in the first 10 years after birth.[13] The present case reports a dentigerous cyst in the first decade of life in a female patient, the incidence of which is low.

Pathogenesis of dentigerous cyst is not clear. There are various theories given for explaining the etiology of dentigerous cyst. An Intra follicular theory in the development of dentigerous cyst, given by Shear [14], suggests that the development of dentigerous cyst begins with the accumulation of fluid between the reduced enamel epithelium and the enamel, or between the layers of reduced enamel epithelium and enamel. Benn and Main in their study, suggested that, inflammation at the apex of a deciduous tooth can lead to the development of an inflammatory follicular cyst around the permanent teeth leading to formation of dentigerous cyst. [15] In the present case, the primary second molar was infected and pulpectomy was done 2 years back. Stainless steel crown was not placed over the tooth which might have initiated a secondary infection due to which the cyst may have developed. The patient had clinical symptoms of a re infection i.e., pain and intra oral sinus was seen. Thus, there were greater chances of the cyst being of inflammatory origin rather than developmental.

A small dentigerous cyst may be, clinically, asymptomatic and may be discovered on routine examination. Symptoms are seen when there is an increase in potential size by expansion of bone and, rarely, bone destruction. In the present case, though the cyst was small, pain persisted was experienced by the patient.

On a radiograph, dentigerous cyst presents as a unilocular radiolucent area associated with the crown of unerupted teeth. [1, 6] Radiographically, if the follicular space is >2.5 mm fluid accumulation is suggested.[6] If radiolucencies are greater than 4 mm, then it is considered to be cystic, until otherwise proven. In this case, the radiolucency was approximately 3-4 cm in diameter.

Treatment may consist of enucleation with removal of unerupted tooth or marsupialisation, in case of large cyst. If, in young individuals, the eruption of the associated tooth is considered to be favourable, its extraction is avoided and the lining is carefully dissected.[1, 6, 16] In the present case, enucleation was done WITHOUT extraction of the second premolar, as it had a favourable eruption path.

V. Conclusion

Dentigerous cyst lesions can be seen in the first decade of life, though the occurrence is rare. Dentigerous cysts may present with complications like pathologic fractures, transformation into true neoplasm (odontogenic keratocyst, ameloblastoma etc.). [17,18] Hence, early diagnosis and treatment will increase the rate of success. As there are chances of recurrence, a long term follow up is essential in such cases.

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