Dentigerous Cysts of Inflammatory Origin-A case report

D Bhayya, T Shyagali

Citation

D Bhayya, T Shyagali. *Dentigerous Cysts of Inflammatory Origin-A case report*. The Internet Journal of Dental Science. 2008 Volume 7 Number 2.

Abstract

The purpose of this case report is to describe the management of dentigerous cyst in mandibular left posterior region associated with unerupted second premolar seen in 10 year old female patient. Radiographic examination revealed well defined radioluceny associated with second premolar and the non vital deciduous molar. The cyst cavity was lined with nonkeratinized squamous epithelium, and odontogenic epithelial islands were seen in subepithelial connective tissue. Treatment was planned to enucleate the cyst along with non vital left mandibular second deciduous tooth and unerupted second premolar.

INTRODUCTION

Dentigerous cyst is the second most common cyst of the oral cavity after radicular cyst. [1] A dentigerous cyst is one that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to the neck of the tooth (Shear, 1992). [2] It accounts for 24% of all the true jaw cyst with frequency of 1.44 cyst for every 100 unerupted tooth in general population and it is usually associated with any of the unerupted tooth but mandibular third molars are most commonly associated. [3,4]

It is also been reported that progressing inflammation from the root apex of the deciduous tooth brings about the development of the dentigerous cyst around the unerupted permanent tooth. [5,6,7,8,9,10] This finding suggests that the teeth treated with RCT for pulpal and periapical infection may become involved in development of dentigerous cyst. [11]

One such case of inflammatory dentigerous cyst seen in left mandibular posterior region associated with pulpally treated deciduous tooth is presented in this article, which was treated by enucleation of the cyst along with the unerupted mandibular second premolar.

CASE REPORT

A 10 year old girl reported to the department of pediatric dentistry, Darshan dental college and hospital, with chief complaint of swelling in the lower left posterior region of the face which was noticed since from 1 month. Other wise the child was physically healthy with no significant medical history.

Intraoral examination revealed a pulpally treated mandibular left deciduous second molar with circumscribed swelling of about 2 X 3 cm extending from the distal side of first deciduous molar to the mesial side of the permanent first molar region in the mandibular left side along the vestibule (Figure 1). On palpation swelling was painless and firm.

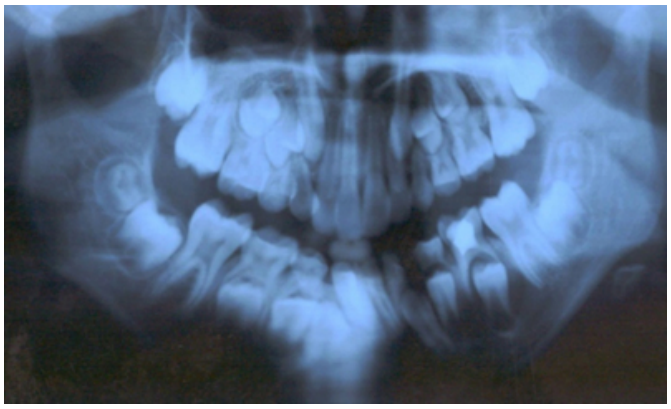
Figure 1

Figure 1. intraoral view of the swelling

Radiographic examination revealed well defined radiolucency in the region of second deciduous molar surrounding the second premolar tooth bud (Figure 2). An aspiration biopsy was done which presented a straw coloured fluid. Provisional diagnosis of dentigerous cyst was made.

Figure 2

Figure 2. Radiographic view



Surgical enucleation of the cyst was planned and patient was operated under the local anesthesia. Intra orally buccal flap was reflected and the lesion was exposed by removing the expanded thinned out bone, fallowed by enucleation of the cyst (Figure 3a & 3b).

Figure 3

Figure 3a. Surgical exposure

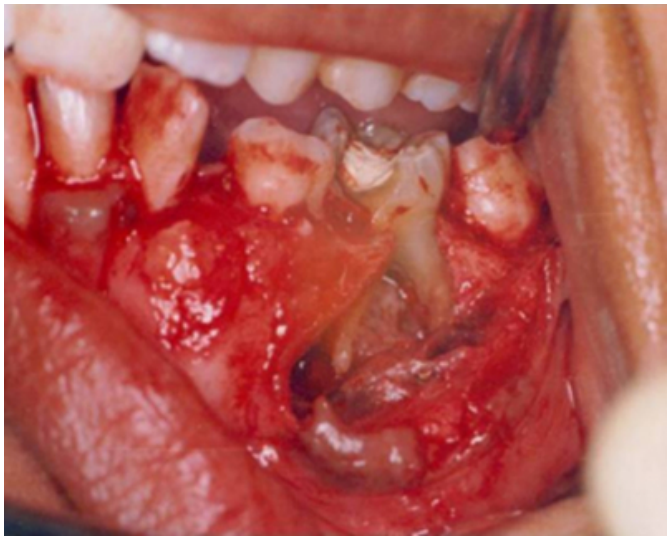


Figure 4

Figure 3b.Enucleation of the cyst

Cystic sac enclosed the second premolar tooth firmly at the cervical margin (Figure 4). Along with enucleation of the cyst extraction of the pulpally treated second deciduous tooth was also done.

Figure 5

Figure 4. Enucleated cyst

Fallowing proper hemostasis, flap was repositioned and sutured after making sure that there existed no pathological tissue (Figure 5). Provisional diagnosis of dentigerous cyst was confirmed as the cyst was enclosing the unerupted second premolar. Sutures were removed after 7 days.

Figure 6

Figure 5. Sutured lesion

The cystic lesion was submitted for the histopathological examination which revealed cyst cavity to be lined with nonkeratinized squamous epithelium, and odontogenic epithelial islands were seen in subepithelial connective tissue along with presence of in□ammatory cellular in□ltration in the epithelial lining (Figure 6). Fallow up of the case after 2 months showed good healing of the surgical site and the bone (Figure 7a & 7b).

Figure 7

Figure 6. Histological section

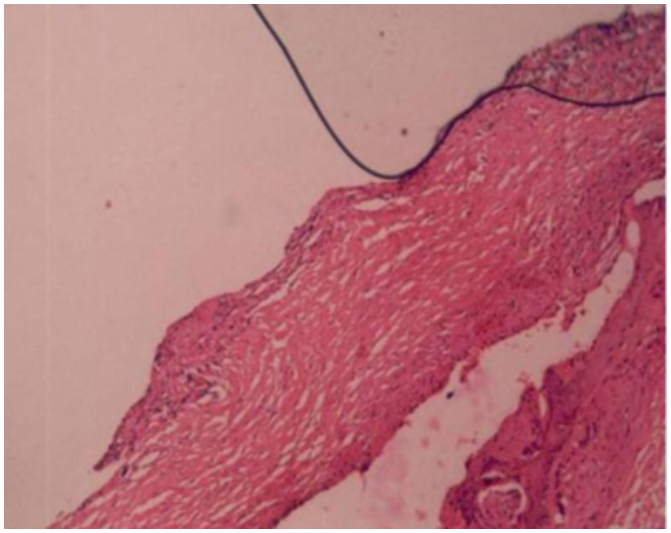
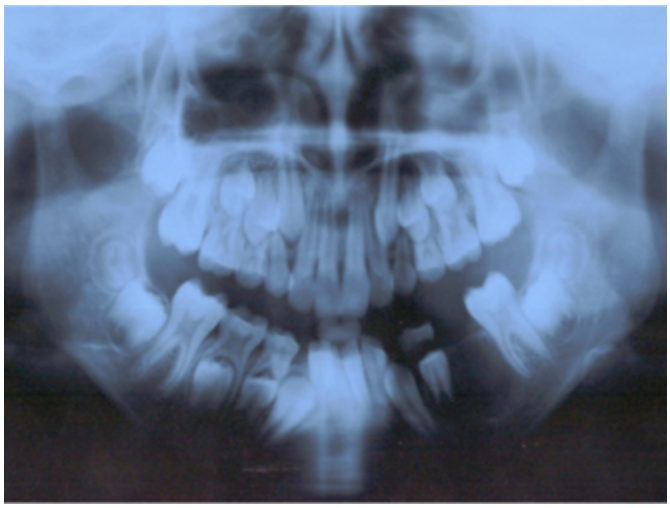


Figure 8

Figure 7a. Post operative intra oral view

Figure 9

Figure 7b. Post operative Radiographic view



DISCUSSION

Occurrence of Dentigerous cysts according to shear is usually in 3 rd and 4 th decade [2], in contrast to this finding Y Shibata et al showed that the age of discovery of the dentigerous cyst was generally 9–11 years [11]. Our patient was also 10 year old; this difference in the agewise prevalence of dentigerous cyst may be attributed to the difference in the ethnicity of the population examined.

Dentigerous cyst is seen associated with 3 rd mandibular molars [34], but in our case the cyst was associated with unerupted mandibular second premolar and the same finding were reported in the previous study on the japenese, where lower premolars is the most common site of occurrence of dentigerous cyst [11].

According to Benn and Altini (1996) [5] three feasible mechanism exists for histogenesis of the dentigerous cyst. Developmental dentigerous cyst forms from dental follicle and becomes secondarily inflamed and the source of inflammation is usually a non-vital tooth. The second type develops from Radicular cyst which forms at apex of a non-vital deciduous tooth. The permanent successor erupts into radicular cyst and results in dentigerous cyst that is extrafollicular in origin. Third type is due to periapical inflammation from non-vital deciduous tooth or other source which spreads to involve follicle of permanent successor, as a result of inflammatory exudate, dentigerous cyst formation occurs as seen in our case.

It is been suggested that marsupialization of the cyst lining is the treatment of choice for dentigerous cyst in children in order to give a chance to the unerupted tooth to erupt [12] , but in our case cystic sac was surrounding the unerupted premolar and was firmly attached to it. So it was decided to do enucleation of the cyst. Two months post operative result showed good prognosis of the case.

CONCLUSION

As dentigerous cysts are asymptomatic they can attain considerable size with out the notice of the patient and this warrants the early clinical and radiographic detection of the cyst so that early treatment strategies will prevent or decrease the morbidity associated with the same.

References

1. Shah N, Thuan H, Beale T. Spontaneous regression of bilateral dentigerous cysts associated with impacted mandibular third molars. Br Dent J. 192(2): 75; 2002
2. Shear Mervyn, Speight Paul Cysts of the Oral and Maxillofacial Regions 4 th ed. Blackwell publishing, Bristol; 2007.
3. Daley TD, Pringle GA. Relative incidence of odontogenic tumors and oral and jaw cysts in a Canadian population. Oral Sur Oral Med Oral Patho. 77: 276; 1994.
4. Mourshed F. A roentgenographic study of dentigerous cysts. I. Incidence in a population sample. Oral Surg Oral Med Oral Pathol. 18: 47; 1964.
5. Benn A, Altini M. Dentigerous cysts of inflammatory origin. A clinicopathologic study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 81: 203;1996.
6. Main DMG. The enlargement of epithelial jaw cysts. Odontol Revy. 40: 306; 1970.
7. Toller PA. The osmolality of fluids from cysts of the jaws. Br Dent J. 129: 275; 1970.
8. Main DMG. Epithelial jaw cysts: a clinicopathological reappraisal. Br J Oral Surg. 8: 114; 1970.
9. Azaz B, Shteyer A. Dentigerous cysts associated with second mandibular bicuspids in children: report of five cases. J Dent Child. 40: 29; 1973.
10. Shaw W, Smith M, Hill F. Inflammatory follicular cysts. J Dent Child. 47: 288; 1980.
11. Shibata Y, Asaumi J, Yanagi Y et al. Radiographic examination of dentigerous cysts in the transitional dentition Dentomaxillofacial Radiology. 33: 17; 2004.
12. Scott-Brown. Otolaryngology, 6th Ed. Butterworth-Heinemann; 5/23/5-6, 1997.

Author Information

Deepak P. Bhayya
Reader, Department of Pediatric and Preventive dentistry, Darshan Dental College and Hospital

Tarulatha R Shyagali
Reader, Department of Orthodontics and Dentofacial Orthopedics, Darshan Dental College and Hospital