

Dentigerous Cyst: A Case Report in a 5 Year Old Child

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ABSTRACT

Introduction: A dentigerous cyst is a developmental cyst of odontogenic origin, normally develops around the crown of unerupted or supernumerary tooth.

Case report: In this case report we are presenting a case of dentigerous cyst which involves permanent lateral incisor and canine in a five year old child, treated surgically by marsupialization technique.

Conclusion: The early detection of cyst by radiographs and histological evaluation and timely treatment in deciduous dentition can prevent unwanted effects like malocclusion, expansion and thinning of bone in permanent dentition.

Keywords: Dentigerous cyst, unerupted teeth, marsupialization.

INTRODUCTION

A dentigerous cyst is a developmental cyst of odontogenic origin which develops around the fully-formed crown of an unerupted tooth.¹ These are discovered on routine radiographs, when a tooth has failed to erupt, a tooth is missing, teeth are tilted or are out of alignment.² These cysts are mostly found in mandibular third molar region followed by maxillary third molar region, maxillary canine and mandibular second premolar.¹ Radiographically, it is very difficult to differentiate between a normal enlarged pericoronal space and a cyst; if the width of this space has reached more than 2.5mm [and has an irregular outline] it is probably a dentigerous cyst.^{3,4} This may be classified as central, lateral and circumferential type.^{5,2} Impacted supernumerary teeth often develop dentigerous cysts.⁶ They are the most aggressive of the cysts due to greater tendency than other jaw cysts to produce root resorption of adjacent teeth.⁷ Histologically, it is composed of a thin connective tissue wall with a thin layer of stratified squamous epithelium lining. This case report shows a case of dentigerous cyst at an unusual place, mandibular canine region in a five year old child.

CASE REPORT

A five year old child reported to the department of pediatric dentistry, Guru Nanak Dev Dental College and Research Institute, Sunam with chief complaint of decayed teeth and swelling on the right side of the face. On examination there were multiple carious lesions present and an intraoral swelling near the right canine region was found. (Figure 1) There was no pain but swelling was hard. Intraorally, there were missing 42 and rotated 41 and 83 was mobile. Patient was advised for an orthopantomogram and occlusal radiograph. Upon Radiographic examination a radiolucent lesion with thin borders, extending from apices of 41, 83, 71 and 72 and causing displacement of 41 and root resorption of 83 was present (Figure 2). A provisional diagnosis of dentigerous cyst was made.

The treatment modalities possible for cyst are enucleation or decompression/marsupialization methods depending upon Cyst size and site, involvement of dentition and surrounding

structures. In this case marsupialization was planned. After taking written consent and evaluation of medical history which was non contributory, surgery was done under general anesthesia. Incision was given, a flap was raised with the periosteal elevator. Tissue was removed and the cavity was cleaned with normal saline, cyst lining is placed in averted position and sutured to the surrounding mucosa to form an open cavity and filled by surgical pack. (Figure 3) Composite splinting of 41 and 73 was done. Specimen was sent for histological investigation. Histological Reports confirmed dentigerous cyst. Patient was advised for routine follow up and normal wound healing was taken place.

DISCUSSION

Dentigerous cyst is the most common developmental odontogenic cyst of the jaws that encircles the crown of an unerupted tooth.² Previously known as follicular cyst; however, according to Browne et al dentigerous cyst is a better form. There are three radiological variations of dentigerous cyst (1) The central variant: crown is enveloped symmetrically, (2) in the lateral type cyst appears on one aspect of the crown, and in the (3) circumferential type the entire tooth appears to be enveloped by cyst.⁹ Various authors have suggested that dentigerous cysts may develop by accumulation of fluid either between the reduced enamel epithelium and the enamel or between layers of reduced enamel epithelium.¹⁰ It has been suggested by Main that the pressure exerted by an erupting tooth on an impacted follicle leads to the obstruction of the venous outflow and thereby results in rapid transudation of serum across the capillary walls, and thus there is increase in hydrostatic pressure of the fluid in turn separates the follicle from the crown.⁹ It is generally seen that dentigerous cyst is less likely associated with more than one unerupted tooth is rare.^{2,10} In the present case permanent mandibular canine and permanent lateral incisors were involved.

About 9% of dentigerous and 1% of radicular cysts occur in the first decade of life (Shear), while according to Donath, about 4% of dentigerous and less than 1% of radicular cysts appear in this life period.⁷

The differential diagnosis of dentigerous cyst include odontogenic keratocyst and primordial cyst and odontogenic tumors such as ameloblastoma, ameloblastic fibroma, and

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How to cite this article: Jasvir Kaur, Neeraj Mahajan, Amanpreet Singh, Deepika Kapoor. Dentigerous cyst: a case report in a 5 year old child. International Journal of Contemporary Medical Research 2016;3(8):2461-2462.



Figure-1: Pre-operative intraoral view

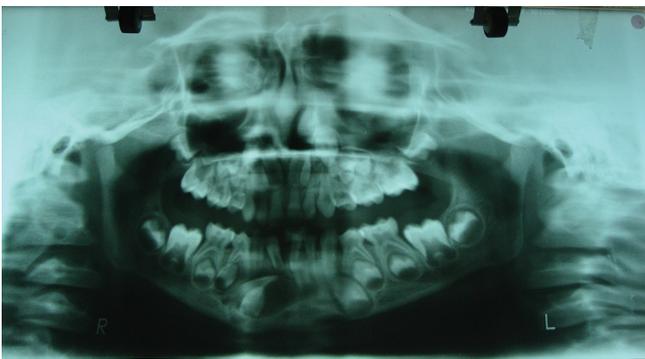


Figure-2: Orthopantomograph



Figure-3: Intra-operative view

adenomatoid odontogenic tumor.^{5,8,1} Ameloblastoma is rare in children and Radiographically it is multilocular cyst like lesion, but may be unilocular with no particular features. Odontogenic keratocyst is also rare in children but more aggressive than dentigerous cyst. Occasionally a radicular cyst surrounding the crown of the developing permanent tooth bud, May also look like dentigerous cyst but radicular cysts are extremely rare in relation to the deciduous teeth and are small in size.⁴

CONCLUSION

Depending upon Cyst size and site, involvement of dentition and surrounding structures treatment is planned accordingly.

Surgery is recommended for dentigerous cysts because it prevents the eruption of underlying permanent teeth. There are two surgical approaches for the treatment of large dentigerous cysts: Enucleation and Decompression. Enucleation technique is to treat larger cysts in paediatric patients, because of developing permanent tooth bud. Very satisfying results have been reported in children treating the cyst with marsupialization technique.

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Source of Support: Nil; Conflict of Interest: None

Submitted: 01-07-2016; Published online: 13-08-2016