

Case Report

***INFECTED DENTIGEROUS CYST IN IMPACTED CANINE- A
case report***

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ABSTRACT-

Dentigerous cysts are the most common developmental odontogenic cysts of the jaw, arising from impacted, embedded or unerupted teeth. We report the case of a Thirteen year-old girl with painful anterior left-sided facial swelling, diagnosed with infected dentigerous cyst in relation to impacted canine , who successfully underwent enucleation under G.A.

KEY WORDS- Dentigerous cyst ,
Impacted canine , Enucleation

INTRODUCTION - Dentigerous cysts are benign odontogenic cysts associated with the crowns of permanent teeth, usually involving impacted, unerupted teeth[1]. In 75% of all cases, they are located in the mandible. The mandibular third molar and maxillary canine are involved most frequently. Mandibular canines are rarely involved . They are the second

most common odontogenic cysts after radicular cysts[2].

Its origin is in the tooth follicle of an unerupted tooth crown, generally the mandibular third molar, which is attached to the cyst through the cemento enamel junction. Its pathogenesis is unknown, but it can be explained by the accumulation of liquid between the remnants of the reduced enamel epithelium of the tooth-forming organ and the unerupted tooth crown after its complete development.[6]

It is more frequent in the second and third decades of life, with a male predilection, and the mandible is the most affected region. These cysts can cause cortical bone expansion and consequently facial asymmetry, although usually there are no symptoms. Displacement of the

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teeth near the cyst and root resorption are also observed in some patients.[3,4]

Dentigerous cysts are usually solitary, but are known to be multiple in patients with certain syndromes, such as mucopolysaccharidosis type VI and basal cell nevus syndrome, Gardner's syndrome and Cleidocranial dysplasia[5]

CASE REPORT

A 13 year old gal Reported to our Department of oral and maxillofacial surgery complaining about pain and swelling in anterior mandible region mostly towards left side . Pain was present from a week and swelling from past three days .

There was no significant past medical and dental history . On clinical examination , there was pain on palpation was present in anterior region of mandible , Mild rise in temperature was seen and no signs oro cutaneous sinus or fistula Intra orally, there was permanent dentition except retained deciduous 73, absence of 33, dental caries in 73 & 34 . On palpation around labial vestibule , pain is present and crackling sound is heard.

OPG reveals impacted 33 which in displaced in the lower border of mandible(Fig 1) . A cyst like radiolucency with sclerotic borders encircling the

crown of the tooth is seen which may be follicular space expansion . Dental caries in relation to 73 and 34 seen.

On aspiration biopsy , a purulent straw coloured fluid was aspirated from the lesion suggesting of an infected cyst

Nasoendotracheal intubation was done .GA administered . Injection of lignacaine 1:100000 with adrenaline in labial vestibule was given . Crevicular incision was given from 35 to 43 . Mucoperiosteal flap was elevated(Fig 2) . On elevation there was a labial cortical plate perforation seen. The cyst was enucleated . The impacted canine was seen and it was removed (Fig 3). The remnants of the lining of cyst was scooped out with a curette. Closure was done with non absorbable suture 3-0 prolene . Histologic analysis revealed the presence of a dentigerous cysts arising from a formed permanent canine tooth.

DISCUSSION

The dentigerous cyst is the most prevalent developmental odontogenic cyst. [3]Even though it has no symptoms, sometimes it can cause maxillary or mandibular expansion and facial asymmetry, asymptomatic intraoral swelling, and a large radiolucent area with well-defined limits that involve permanent teeth as observed on radiographic examination

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and can cause their displacement near the base of the mandible.

Our patient had the clinical and radiographic features of a dentigerous cyst. To investigate the hypothesis, we performed an exploratory puncture (aspiration biopsy) that showed purulent contents. It indicated an infection, considering the development time of the cyst, the history of fever episodes, and the intraoral suppuration. The infection of the cyst probably originated in the first deciduous canine.

It is often treated by surgical removal, although the cyst-associated tooth can spontaneously erupt if the root is not matured. [6] Without treatment, the cyst not only inhibits the eruption of an impacted tooth but also can carry the tooth to an unusual position in the jaw. Because we cannot reliably predict tooth eruption, clinical judgment might lead many clinicians to entirely remove the cyst and extract the tooth. [7] For a normal eruption of tooth in the oral cavity following parameters are important. [8] Cusp depth: distance of the central cusp tip of the cyst-associated tooth from the line that passes the cemento-enamel junction of adjacent teeth that had erupted completely. Angulation: angle between the impacted tooth axis and the bisector of both adjacent tooth axes. Root maturity: degree of root

formation of the impacted tooth (less than half, half to three quarters, three quarters to complete root formation with an open apex and mature root). Cyst area: area size of a cyst calculated by image software. Eruption space: ratio of the distance between both contact points of the adjacent teeth to the crown width of the cyst-associated tooth.

Enucleation has been the standard treatment for dentigerous cysts along with extraction of the associated tooth. This is necessitated by the cyst's potential to displace or block eruption of surrounding teeth, destroy or cause fracture of bone, or invade nervous structures. [9] In the child however, the loss of permanent dentition can lead to functional, cosmetic and psychological consequences. Some authors advocate a more conservative approach, evaluating individual treatment on a case by case basis, based on cyst size, patient age, extent of cyst invasion of surrounding structures, along with functional and cosmetic significance of the impacted tooth itself. [10] Treatment alternatives would include marsupializing the cyst before enucleation, or leaving the cyst associated tooth in place followed by orthodontic traction and eventual eruption if the tooth is in a favorable position of eruption. Whatever the surgical approach used, a tissue analysis is essential in making a final diagnosis.

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Enucleation allows for histologic examination of the entire epithelial lining which more conservative approaches do not. This is important given that other neoplasms such as squamous cell carcinoma may arise from the dentigerous cyst, that may be missed if only a limited area of cystic tissue is examined. Dentigerous cysts recur in very rare instances.

CONCLUSION

In this case report we describe a management of infected dentigerous cyst of impacted canine . Recent studies shows that evaluation of a tooth for eruption as shown in is important . Marsupialization of the cyst is an alternative to allow the eruption of tooth without sacrificing it ,if it is in a favourable position for eruption.

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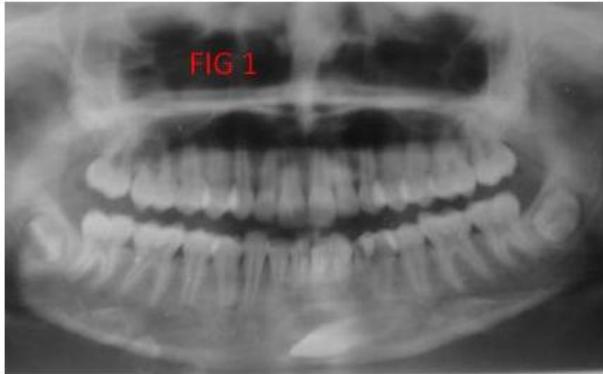


FIGURE LEGENDS:

Fig 1. Orthopantomogram

Fig 2. Elevation of flap reveals the cyst with impacted canine tooth .

Fig 3 Enucleation of cyst with removal of canine .

Conflict of Interest – Nil

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