VOLUME - 13, ISSUE - 03, MARCH - 2024 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Oral Medicine & Radiology

DENTIGEROUS CYST- A CASE REPORT

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ABSTRACT Dentigerous cyst is one of the most common odontogenic cyst encountered in the maxillofacial region. They are more frequent in males and although most often affected teeth are maxillary canines and mandibular third molars, they may also be related with supernumerary or an unerupted tooth. Rarely dentigerous cysts present with a grotesque dimension, here we report a rare case of dentigerous cyst associated with an impacted right anterior maxillary canine. A 20 year old male patient was referred to the department of Oral Medicine and Radiology with the complaint of a painful swelling over the right cheek region since the past 3 years. All the permanent teeth were present except the right maxillary canine. External examination showed that the face was gently asymmetrical; levels of eye globes were abnormal. Radiographic examination revealed an expansile unilocular cystic lesion with smooth corticated borders which was located on the roof of the right maxillary sinus. The patient's symptoms were resolved completely after surgery. To avoid unwanted effects of a dentigerous cyst, unerupted tooth should be observed with radiographic imaging. Some untreated dentigerous cysts may become large and have a potential to develop into an odontogenic tumor.

KEYWORDS : Dentigerous Cyst, Odontogenic Tumor, Maxillofacial, Grotesque, Unerupted

INTRODUCTION

Dentigerous cyst is the most common developmental cyst of the jaws and the second most common type of odontogenic cyst after radicular cyst. Dentigerous cyst, also known as follicular cyst, is caused by fluid accumulation between the reduced enamel epithelium and the enamel surface of a formed tooth and it originates by separation of the follicle from around the crown of an unerupted tooth. A greater incidence in young men has been reported with a ratio of 1.6:1. It is usually associated with impacted or unerupted teeth. Mandibular third molars, maxillary canines and mandibular premolars are involved most frequently. Rarely, a dentigerous cyst is associated with an odontome, deciduous teeth and supernumerary teeth.

We report a challenging case of a massive dentigerous cyst involving the right side of face, which was successfully treated with conservative therapy.

Case Presentation

An 21-year-old boy reported to the Department of Oral Medicine and Radiology, with chief complaint of a painless swelling in the upper jaw for a duration of 3 years. At the time of presentation, the patient had no systemic disease, no history of trauma to the maxillary anterior region; however, the patient noticed gradually increasing swelling on palatal side. No episode of pain or discharge from the site was reported by the patient.

Patient was subjected to routine general systemic examination. He had no relevant past and present medical history. There was no history of cachexia or weight loss. Patient reported with no significant dental history.

Extra-oral clinical examination revealed, a well-defined growth, of size 5 cm. × 5.5 cm. approx. on the right side of the face, extending antero-posteriorly from the superior orbital border upto the lower lip region. The overlying skin appears to be stretched. Upon palpation, the growth is non-tender, in the superior area, it is soft and fluctuant and the rest of the region is firm. (FIG.1)

Intra-oral examination revealed, a diffuse, non-tender palatal swelling, of size 3cm. × 3.5cm. extending from 11 region up to mesial aspect of 17 region. Body of the lesion is hard in consistency, completely obliterating the vestibular region and crossing the mid-line. (FIG.2)

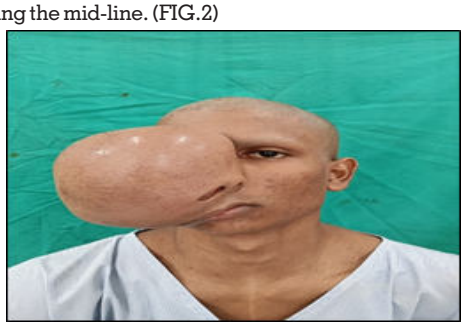


FIG.1 Extra-oral picture

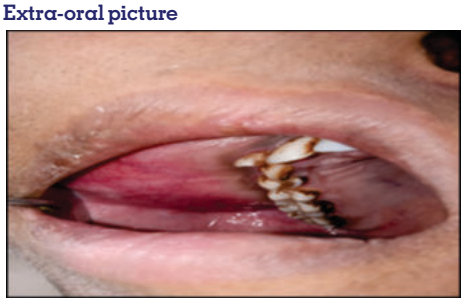


FIG.2 Intra-oral picture

Provisional And Differential Diagnosis

On the basis of clinical examination, provisional diagnosis is Ameloblastoma while the differential diagnosis is dentigerous cyst.

Investigations

Routine hematological investigations were within normal range. A FNAC was performed at the time of examination, yellow colored fluid was obtained which showed inflammatory cells along with scanty cholesterol crystals, suggestive of cystic lesion.

Radiographic investigation was carried out to confirm the type and extent of cystic lesion.

The panoramic radiograph revealed, a mixed radiopaque-radiolucency and an ectopic canine present on the right orbito-maxillary sinus region. (FIG.3)

FIG.3 OPG of the patient.

USG showed, a large cystic space occupying lesion in the right orbito-maxillary facial region.(FIG.4)

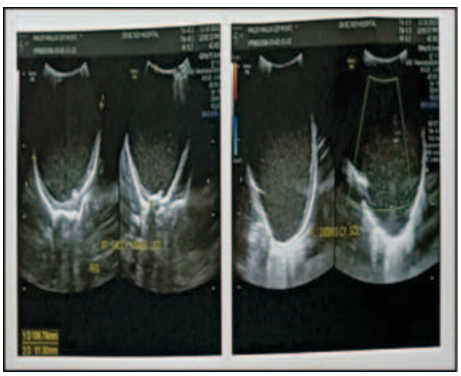


FIG.4 USG of the patient.

CECT showed, a solitary expansile unilocular cystic lesion with smooth corticated borders arising from right side of maxillary bone measuring 112 mm × 104 mm × 104 mm in size. Unerupted tooth was seen within the cyst. Superiorly the cystic lesion had a scalloped border & was found to displace the inferior orbital wall posteriorly. (FIG.5)

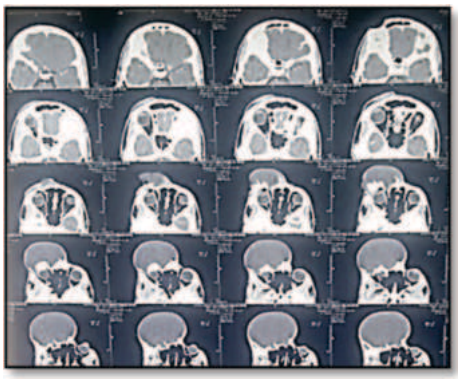


FIG.5 CECT of the patient.

Radiological Diagnosis

Benign odontogenic cystic lesion under circumferential variety of dentigerous cyst.

Aspiration of the swelling with a fine needle revealed a straw colored fluid.

Treatment

Under general anaesthesia, enucleation of the cystic lesion was done in toto. Elective tracheostomy was performed. Trans-illumination test was done to reveal the fluid inside the cystic cavity. Floor of the orbit was found to be involved. Weber-Fergusson incision was placed with lynch extension, then the skin flap was dissected. The expanded bone was removed and the cystic line was enucleated along with the involved teeth. Carnoy's solution was applied along the entire bed of the lesion. The rough bony margins were smoothened off by the Bone rongeur. Nasal packing was done with Foley catheter. Haemostasis was achieved and the surgical bone closure was done in layers. (FIG.6, FIG.7)

FIG.6 Intra-operative picture

Histopathologic examination revealed the presence of a cystic lining and connective tissue capsule. The epithelial lining consisted of nonkeratinized 2-4 layers of flattened epithelial cells. All the features suggested a dentigerous cyst. (FIG.8)

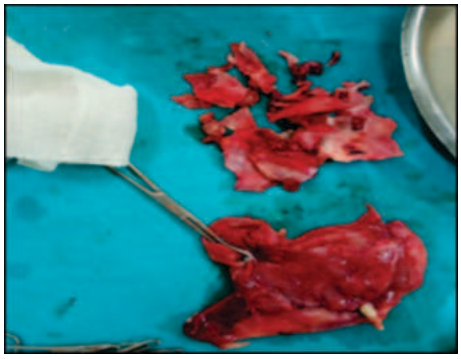
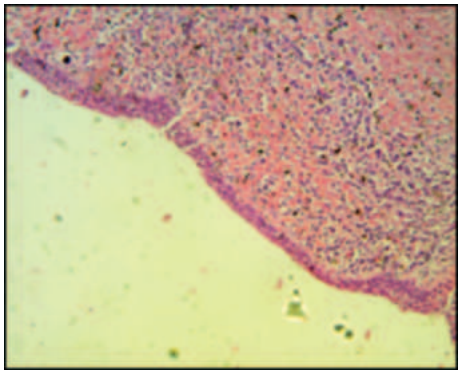


FIG.7 Specimen picture.



Outcome And Follow-up

The patient was followed up for 6 months. The postoperative

period was uneventful. He has been advised orthodontic management for malposed maxillary anterior teeth.

DISCUSSION

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)

Mostly discovered by routine radiographic examinations or by enlargement of affected region in the jaw. 'Denti' means Tooth, 'Gerous' means Bearing or Producing. In 1988, first found from a female patient.

Pathologically, the cyst develops by accumulation of fluid between the reduced enamel epithelium and the tooth crown. Although most dentigerous cysts are considered to be developmental in origin. On occasion, it may develop around the crown of an unerupted permanent tooth as a result of peri-apical inflammation from an overlying primary tooth. Recurrent pericoronitis, these lesions are usually diagnosed as examples of dentigerous cyst.

Clinically, it is aggressive type of cystic lesion. Most frequently seen in the mandible (70%) and the maxilla (30%). Usually painless, pain arise when secondary infection occurs. Expansion of bone with subsequent facial asymmetry. Pus may discharge in case of secondary infection. If untreated-swelling became large.

Unilocular radiolucent area, associated with the crown of an unerupted tooth. Large dentigerous cyst give multilocular impression. Radiographic variants – central, lateral and circumferential.

Histopathologically, Depending on the inflamed or, non-inflamed cystic type, in the non-inflamed dentigerous cyst, the epithelial lining consists of two to four layers of flattened non-keratinizing cells, and the epithelium and connective tissue interface is flat. In the fairly common inflamed dentigerous cyst, the epithelium lining may show varying amounts of hyperplasia with the development of rete ridges. Focal areas of mucous cells may be found in the epithelial lining of dentigerous cysts.

Enucleation is the standard treatment together with removal of the unerupted tooth. Patients may need orthodontic treatment to assist eruption. Large dentigerous cysts also may be treated by marsupialization. This permits decompression of the cyst, with a resulting reduction in the size at the bone defect.

In conclusion, early diagnosis and proper treatment planning for such uncommon cases is necessary to avoid further complication.

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