



Dentigerous Cyst Maxilla Mimicking Maxillary Sinus Malignancy– A Case Report

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Abstract

Background - Odontogenic cysts are derived from odontogenic epithelium and classified as inflammatory or developmental. Dentigerous cyst are developmental in origin and associated with an impacted tooth which has failed to erupt. Seen commonly in maxilla and mandible, with a tendency to grow in size and predisposition towards recurrence.

Case Presentation – The present case is a peculiar instance of a dentigerous cyst around an unerupted tooth in a 19-year-old female who visited our OPD with complaint of swelling right cheek which was progressively increasing in size. After radiological and cytological investigations, opinion on the basis of initial diagnosis of dentigerous cyst was generated. It was later confirmed on histopathology.

Conclusion – In our case patient had presented with complaint of right cheek swelling which can have a variety of differential diagnosis. Before deciding course of treatment, detailed diagnosis should be done so as to give best possible treatment and prevent any complications.

Keywords – Dentigerous cyst, maxilla, marsupialisation.

Background

Dentigerous cyst is a form of odontogenic cyst which is non-congenital in nature, and arises from departure of dental follicle from the crown of an unerupted tooth. It ranks second in the list of most common true cysts having epithelial origin found in the jaw and is a rare entity with few cases being reported in the literature. When this cyst increases in size, it presents as swelling in maxilla. Imaging, histopathological examination are important tools in making diagnosis.

Case Presentation

A 19-year-old female presented to ENT OPD of a tertiary care centre with a complaint of swelling on the right cheek for 1 month. It was initially small and gradually started to increase in size. She also complained of pain in the swelling for 15 days. There was a history of low-grade fever for 1 week. She had been on antibiotics for 2 weeks but received no relief. No history of dental extraction.

On local examination, facial asymmetry was seen. Swelling on the right cheek was about 3x3 cm sized, extending from the right nasolabial fold, superiorly overlying the zygoma, inferiorly lesion extended till the upper lip. Soft to firm in consistency, tender to touch, non-reducible, non-fluctuant. Overlying skin was mildly erythematous (Fig 1)

On intraoral examination, a bulge was seen along the right upper gingivolabial sulcus extending from the right central incisor to the right first premolar. Patient was advised NCCT Nose and PNS which revealed a large expansile cystic lesion measuring 48x46 mm seen arising from the maxilla on the right side extending up to the right maxillary sinus, nasal cavity up to the right orbit. A tooth was seen within the cyst (Fig 2). Fine needle aspiration cytology from the oral swelling suggested a benign cyst (Fig 3). This along with clinical and radiological appearance led to a provisional diagnosis of dentigerous cyst.

Patient was taken up for enucleation by the Caldwell-Luc approach under general anaesthesia. Histopathology revealed an odontogenic cyst. (Fig 4)



Fig 1 - Showing cheek swelling



Fig 3 - Aspiration from intraoral swelling

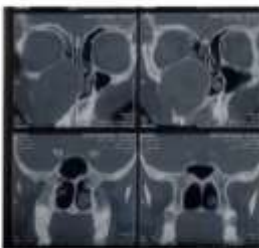


Fig 2 - NCCT NOSE AND PNS showing mass in right maxilla



Fig 4 - Intraoperative pictures showing excision of mass along with tooth

Discussion

Dentigerous cysts also known as follicular cyst, are slow growing benign in nature and developmental in origin. The term “dentigerous cyst” was coined in 1962 by Gorlin [1]. It ranks second in the list of most common odontogenic cyst, only behind the periapical cyst. Second and third decade of life are most commonly affected with male predilection and areas affected are mandibular third molar followed by maxillary canines and mandibular premolars [2]. It arises from cement-enamel joint and encircles the top of the unerupted tooth. Their pathogenesis remains unclear; however, it is believed that due to prolonged period of tooth impaction, there are changes in osmotic pressure leading to increase in epithelium resulting in the formation of a fluid filled sac. Eruption of the tooth would lead to bursting of dentigerous cyst and eventually lead to the becoming a non-pathological entity.[3] Other theory of origin referred as “intrafollicular” states that it results from accumulation of liquid between the surfaces of the epithelium at the stage of crown development [4]. It is usually solitary but several cysts may be recognised with Basal cell nevus syndrome, mucopolysaccharidoses [5].

These cysts are incidentally discovered during examination and treated easily if smaller in size. If it increases in size, can present as a palpable mass, cause facial asymmetry, nasal obstruction, involves paranasal sinuses and displace adjacent teeth. Dentigerous cysts occasionally become extensive and difficult to treat with the impacted tooth displacing a considerable distance due to cyst pressure like in our case.

While making a diagnosis other causes of cheek swelling like maxillary sinus tumors, salivary gland tumours, abscess, lipomas, and cysts needs to be ruled out. Maxillary sinus tumors usually have short history, progressive swelling, hard on palpation and CT scan shows heterogenously enhancing lesions with or without bony erosion. Diagnosis is confirmed by histopathological examination. Tooth infection and abscess are usually the primary diagnosis but are ruled out due to chronicity of the lesion and absence of pain. Lipomas are excluded based on examination and radiology. On radiology dentigerous cyst appeared as a well-defined unilobed radiolucent area involving the tooth crown, making it easy to reach a diagnosis. However before planning for definitive treatment, fine needle aspiration cytology or incisional biopsy is needed to differentiate it from ameloblastoma or odontogenic keratocyst as these have similar appearance but are expand faster and need well planned treatment.[6] Although cysts are frequently identifiable on Orthopantogram but Computed tomography helps in better evaluation, defines extent of lesion and helps in distinguishing it from other lesions of mandible and maxilla.

Management includes marsupialisation, enucleation and decompression. Approach depends on multiple factors like size of the cyst, age of the patient, proximity to vital structures and significance of impacted tooth. Surgery is commonly recommended because cysts block eruption of teeth, displace teeth or affect adjacent vital structures and cause pathological fractures. [7] Considering the size of cyst and extension towards orbit, in the present case we proceeded with enucleation of cyst alongwith extracting of displaced tooth. Another method of treating dentigerous cysts involving the maxillary sinuses is the endoscopic-assisted trans antral approach. The surgery is minimally invasive and preserves physiological function while minimizing morbidity and preventing complications. However, in our case, this method could not be used due to the size of mass.

Conclusion

Swelling in the cheek region could be because of multiple pathological conditions. For definitive management exact nature of disease and extend of lesion must be clear. Detailed history, thorough clinical examination and relevant radiological and pathological examination is mandatory for exact diagnosis and treatment.

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