

A Giant Case of Dentigerous Cyst: A Case Report

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ABSTRACT

Dentigerous cyst over the maxillary sinus are quit an occurrence in our population, specially in adults. Rarely do they come up to a size whereby they can cause nasal obstruction or even impairment of vision. This report illustrates an unusually large dentigerous cyst over the maxillary sinus that had resulted in facial disfigurement and had caused impairment of vision in right eye as well as nasal obstruction just by its voluminous size.

KEYWORDS: Dentigerous cyst, Odontogenic keratocyst

INTRODUCTION

Dentigerous cysts are a common entity that we encounter as a swelling in the face that may be in the maxilla or the mandible. They have also been named as pericanal cyst/follicular cyst. They comprise about 33% of all odontogenic cysts. They are thought to be developmental origin and are associated with crown of the unerupted teeth.¹ The cyst cavity is lined by epithelial cells that are believed to be derived from the reduced enamel epithelium of the teeth forming organs. It has also been accepted that the pressure exerted by an erupting tooth on the follicle may obstruct the venous flow inducing accumulation of exudates between the reduced enamel epithelium and tooth crown.^{2,3} Some have even suggested that periapical inflammation of non-vital deciduous teeth in close proximity of follicles of unerupted permanent successor may be a factor for bringing this type of cyst formation. Histologically it is composed of thin connective tissue wall within a thin layer of stratified squamous epithelium lining the lumen. Its connective tissue wall is quite thickened and composed of very loose fibrous connective tissue or sparsely colonised myxomatous tissue. This connective tissue is also infiltrated by inflammatory cells. Ruston bodies are frequently noted within the lining epithelium. The fluid within the cyst is thin watery yellow in colour. Radiologically they appear as well demarcated area of radiolucency with hyperostotic border. They also appear to contain a unerupted tooth.^{4,5}

CASE REPORT

A 19 years old male patient came to the ENT department of Gauhati Medical College hospital with a huge tumour on the right cheek involving the nose. The tumour was slowly increasing in size for the last 4 years. The patient initially overlooked his swelling, but with time the

tumour swelled to such an extent that it had concealed his right eye and had impaired the vision of his right eye (Figure No.1, 2). The tumour now had burdened itself over the patient's nose and had completely obstructed right nostril and compromised the left nostril. When the tumour was examined, it appeared to be firm in consistency without any tenderness. There was no local raised temperature. The skin from the swelling could be barely pinched up. The right nostril was completely obstructed along with severe DNS with very little space in the left nostril. Oral cavity had normal findings. He was radiologically investigated with CT scan which showed a cavitory lesion over the right maxillary sinus containing fluid in the cavity (Figure No.3). The lesion has dented the anterior wall of the right maxillary sinus to such an extent that it had obscured the right maxillary sinus. A unerupted tooth was also noted within the cavity along its posterior wall. The patient underwent



Figure No.1: A patient presenting with a giant swelling arising from the right Maxilla almost overriding the nose.

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Figure No.2: The Swelling has encroached upon the right eye, obscuring his vision from the right eye



Figure No.3: CT scan shows a lytic lesion arising from the right maxilla completely obscuring the right maxillary sinus. Arrow pointing to the impacted tooth inside the cavity.

further investigation and was prepared for excision under general anaesthesia. The lesion revealed an outer bony wall which was friable in areas. The anterior wall of the cavity was removed to get into the cavity. The fluid within the cavity appeared yellowish. A unerupted tooth was noted to lie along the posterior wall of the cavity (Figure No.4). The mucosa was stripped off from the inner wall of the cavity. The cavity was packed and the right nostril of the patient was reconstructed. The patient later on underwent corrective surgery of the right cheek in the facial plastic surgery department (Figure No.5). Currently patient is having functionally normal right eye and can breathe properly. But more than anything else he is able to roam freely without having to hide his deformity that once existed.

DISCUSSION

Dentigerous cysts are frequently encountered odontogenic cyst. They are in fact the second most common variant of the odontogenic cyst. They are mainly encountered on the 3rd maxillary and mandibular molar and also the maxillary canine. They can originate from any teeth even from supernumerary tooth. They normally

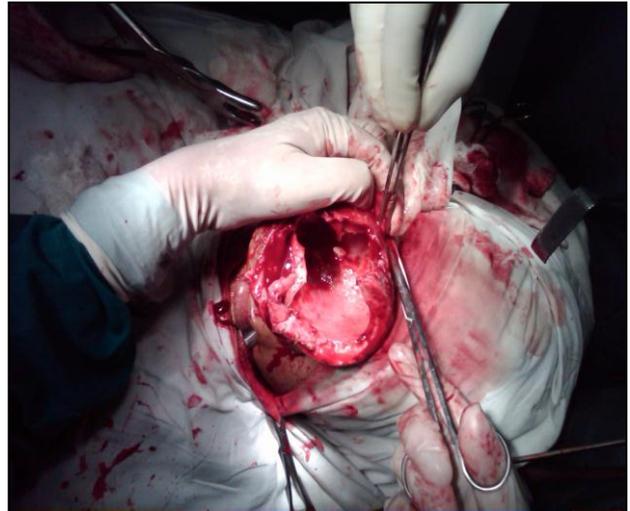


Figure No.4: Cavity opened during surgery, fluid removed from inside the cavity. Arrow pointing to the impacted tooth sitting on the posterior wall of the dentigerous cyst



Figure No.5: After the first stage surgery

present themselves in the 2nd and 3rd decade of life.⁶⁻⁸ Many a times they are asymptomatic diagnosed during radiological examinations. Various theories have been propagated to explain the development of dentigerous cyst. When a tooth fails to erupt they either get absorbed or at times they remain dormant in the bone. Many believe that in some case of unerupted teeth the inner enamel epithelium desquamates into the lumen of the sac. As a result an osmotic gradient develops within the sac and it draws in fluid, causing the sac to expand. As the sac expands it causes pressure atrophy of the surrounding bone.⁹⁻¹¹ As they expand they encroach upon the adjacent teeth and weaken them. By the time they have grown large enough to be detected by the patient they actually have done quite a bit of irreversible injury. In this mentioned case the Dentigerous cyst not only grown out the maxillary region but had moved nasally and had completely obstructed the right nasal cavity, deviated the nasal septum to an extent that the air passage in the left nostril had been compromised. The Dentigerous cyst had also expanded superiorly to such an extent that it has completely obstructed the right eye and compromise vision from the right eye.^{12,13}

Radiologically they exhibit well define region of radiolucency with surrounding sclerotic borders associated with the crown of the unerrupted tooth. Radiologically, 3 different cysts to crown presentation have been documented. They are central variety, lateral variety and circumferential variety. In our case the cyst to crown relationship was noted to be circumferential variety. The cyst growth in our case was nothing like normally encountered. It had expanded and protruded out like a tumour arising from the maxilla. The right maxillary sinus was almost obliterated. This large cyst had disfigured the patient following which there was a change in the patient's behaviour and he was finding himself difficult to lead a normal life. There was complaining of sinusitis and headache. The differential diagnosis includes odontogenic keratocyst, adenomatoid odontogenic tumour, calcified epithelial odontogenic tumour and unicystic ameloblastoma. About 40% of unilocular odontogenic keratocyst contain impacted tooth. The odontogenic keratocyst have a tendency for recurrence and may be associated with nevoid basal cell carcinoma syndrome. Dentigerous cyst can undergo carcinomatous transformation into ameloblastoma or squamous cell carcinoma, although it is rare. If mucous cells are present in the epithelium, the intraosseous mucoepidermoid carcinoma may be ruled out.¹⁴⁻¹⁷

For small dentigerous cyst enucleation of the cyst with extraction of the associated tooth is sufficient. For a larger dentigerous cyst marsupialisation is required. But in the said case the cyst was removed and then patient had undergone a subsequent facial corrective surgery with the plastic surgery department. When other odontogenic tumours are highly suspected radical removal of the lesion is advocated as per requirement.

CONCLUSION

The dentigerous cysts are often an incidental finding on routine examination of the Jaws. Such a large dentigerous cyst over the maxilla may cause facial disfigurement for which most of the patients find difficulty in leading a normal life. Proper planning for reconstruction following excision of the cyst is utmost important. Regular dental and oral examination with appropriate imaging is required to identify jaw cyst earlier before any complications like bone destruction and facial deformity can occur. The removal of impacted teeth is a preventive measure.

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