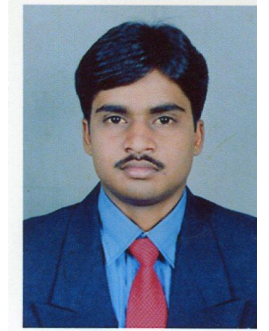


**ORAL & MAXILLO
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ODONTOGENIC KERATOCYST OF MAXILLARY SINUS
EXTENDING TO CRANIAL BASE

A CASE REPORT

Authors: Dr. Ashok Kumar K.R
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ABSTRACT:

- Odontogenic Keratocyst is a developmental odontogenic cyst which shares features of a cyst or a neoplasm and because of this it remains an enigma for clinicians and researchers although the understanding of this interesting lesion has improved. We report a case of Odontogenic Keratocyst of maxilla extending to the infratemporal fossa, which was secondarily infected.

INTRODUCTION:

- Odontogenic Keratocyst was first described by Philipsen in 1956. The debate continues as to the pathogenesis, behavior and treatment of this cyst. Scharffetter and colleagues substantiated the increased mitotic activity within the lining of the Odontogenic Keratocyst as well as an explanation for its potential to develop eccentric and multilocular growth pattern¹. It is mentioned previously that this cyst has a specific microscopic appearance such as uniform epithelial cell thickness of 5 to 7 layers, a corrugated layer of parakeratin, hyperchromatic basal cell layer that may be cuboidal, columnar, palisaded or tombstoning of the basal layer². Here with, a case of huge Odontogenic Keratocyst of maxillary sinus in a 50 years old man with secondary infection is reported.

CASE REPORT:

- A 50 year male patient reported to the Dept of Oral & Maxillofacial Surgery, SSDC, Tumkur, with complaint of swelling over right side of face, which he has been observing since 2 months. Patient had history of foul smelling pus discharge from mouth since 15 days. Clinical examination of the patient revealed a hard swelling extending antero-posteriorly from right lateral margin of nose to malar prominence, superio-inferiorly from right infraorbital margin to right corner of the mouth (Fig 1). Intraorally swelling was extending from 12 to 17 with buccal expansion. 18 and 28 were missing with pus discharge from right tuberosity region distal to 17. Swelling was hard, tender, non fluctuant with diffuse margins. Nasal examination showed no abnormality. There were no signs of orbital

involvement. Intraoral aspiration of the swelling revealed pus. A differential diagnosis of Primordial Cyst & Odontogenic Keratocyst was made. The patient was evaluated for clinical evidence for the presence of basal cell nevus syndrome, which turned out to be negative.

- CT scan taken with 5mm axial and coronal sections showed increased size of the right maxillary sinus with fluid level inside the sinus. There was perforation and obliteration of the posterior wall of the right maxillary sinus, with extension of the lesion into the infratemporal fossa, expansion of anterior and lateral walls with involvement of alveolar bone was also visible. Missing 18 & 28 noted. The expansile and aggressive nature of the lesion with involvement of alveolar bone was very well demonstrated in CT scan. Left maxillary sinus also showed increase in the thickness of the lining (Fig 2,3,4).
- Incisional biopsy was done under local anaesthesia through the anterior part of maxilla. Histologically the lesion showed thin cystic epithelium overlying the connective tissue capsule with lack of rete pegs, the thickness varied between 3-10 cells, the basal cells were columnar and hyperchromatic with palisading appearance. The surface showed corrugation and parakeratinization (fig-5). There was a tendency for the epithelium to separate from capsule suggestive of a weak junction (fig-6). The capsule was mature, fibrous and inflamed, the collagen fibers ran parallel to the epithelium suggestive of a cystic lesion. Based on these features a final diagnosis of Parakeratinized Odontogenic Keratocyst was made.
- The case discussed here clinically and radiographically mimicked an aggressive cyst and confirmed after histopathological examination was operated under GA, through intraoral approach, crevicular incision was placed from 21 to 18. Mucoperiosteal flap reflected and anterior wall of maxilla was exposed and a bony window was made to expose the lesion (Fig 7). Extraction of 14, 15, 16 & 17 was done along with enucleation and curettage of the lesion. Lesion extending to the infratemporal fossa was removed through the posterior wall of the sinus (Fig 8). Carnoy's solution was applied to the walls of the sinus for 5 minutes and primary closure was done after achieving complete haemostasis. Patient was discharged and advised regular follow-up for life time.

DISCUSSION:

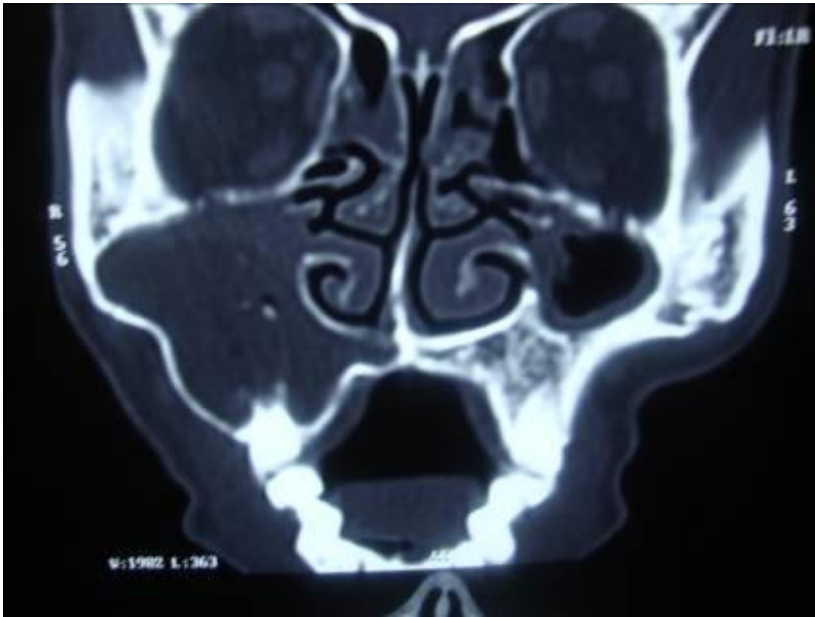
- Occurrence of Odontogenic Keratocyst in the maxillary sinus is a rare entity, most occur in mandible than in maxilla. It is commonly seen in 2nd & 3rd decades although it can occur any time between 7 to 93 yrs. The common clinical presentation is swelling, pain, trismus, sensory deficits and infection. The radiological appearance may be either a unilocular or multilocular radiolucency and may or may not be associated with an unerupted tooth. It may occur as a solitary lesion or there may be multiple cysts in a patient with basal cell nevus syndrome.

- Recurrence rate of up to 62.5% have been reported³. The potential for recurrence is associated with daughter or satellite cyst formation with thin lining; incomplete removal of cyst with remnants left behind and increased level of mitotic activity in relation to other cysts of the jaws. Reports have demonstrated that this cyst can proliferate in muscle and death from intracranial extension of mandibular Odontogenic Keratocyst^{4,5}.
- There is a debate among clinicians as to the most appropriate method of treatment. Treatment goals should be to provide the lowest chance for recurrence with the least degree of morbidity for the patient while still eradicating the pathological process. Some investigators claimed good success with decompression and enucleation; others advocated excision of overlying mucosa, peripheral osteotomy and chemical curettage^{6,7}. Many authors recommend the use of carnoy's solution, a tissue fixative that is applied to the bony cavity following enucleation⁸.

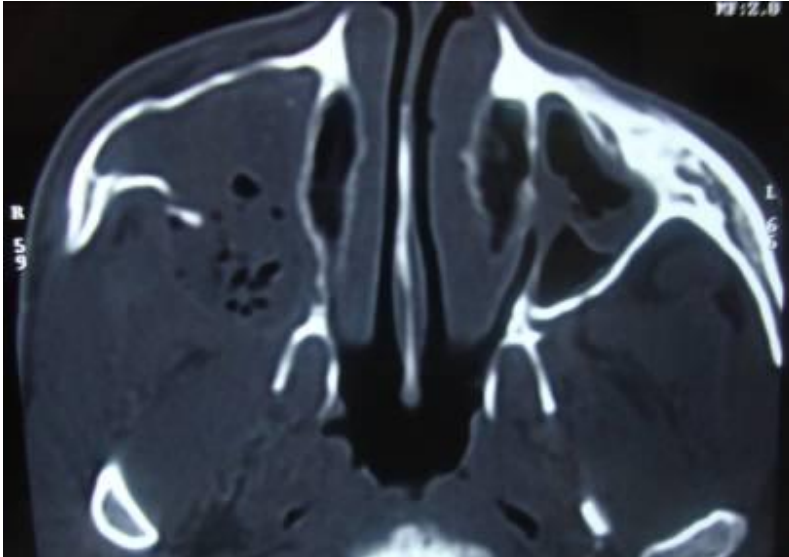
CONCLUSION

- In short, Odontogenic keratocyst is a cystic lesion with neoplastic characteristics. This paper reports a case of Odontogenic keratocyst arising from missing maxillary third molar with extension in to the cranial base.

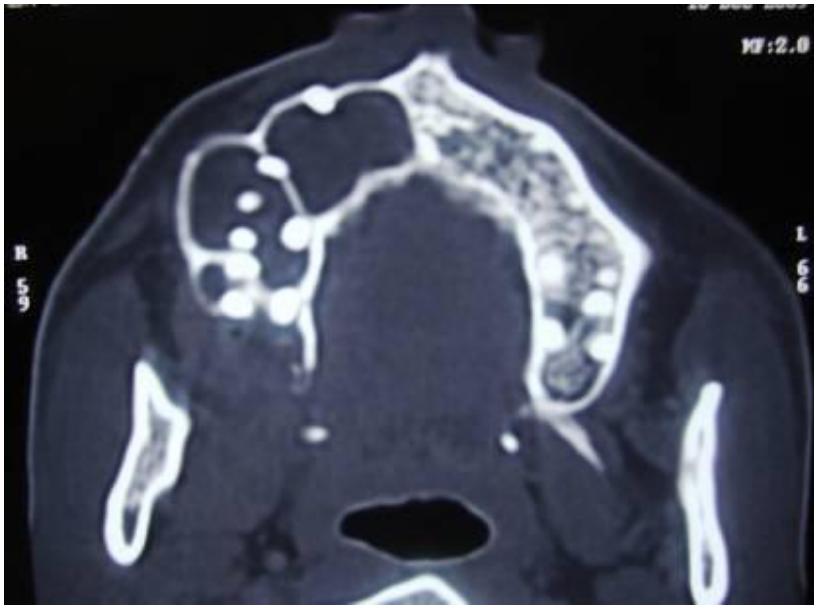




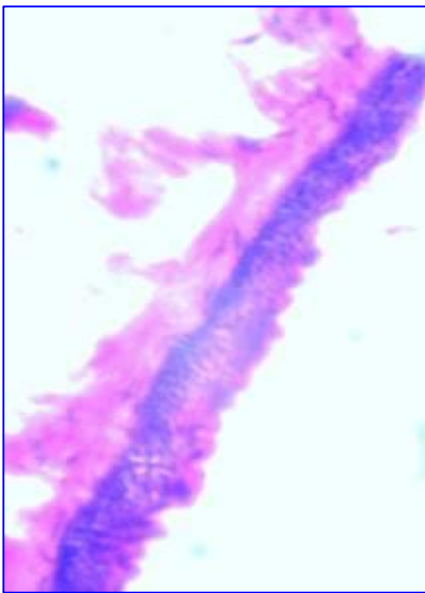
(Fig 2) Coronal CT showing involvement of right Maxillary sinus



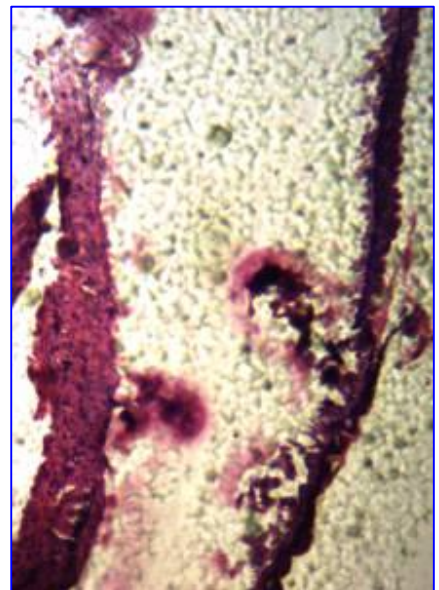
(Fig 3) Axial CT showing invasion of lesion into infratemporal fossa.



(Fig 4) Axial CT showing alveolar bone involvement.



(Fig-5) Photomicrograph



(Fig-6) showing separation of Epithelium from CT capsule



(Fig 7) Intra-op photograph



(Fig 8) Intra-op photograph



Post-op photograph

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