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Case Report

Keratocystic Odontogenic Tumor of the Mandible- A Case Report

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***ABSTRACT*:**
Keratocystic odontogenic tumor is considered to be a benign cystic neoplasia of jaw bone with a higher rate of recurrence. It is noted to be third most common odontogenic cyst after radicular and dentigerous cyst. It has a peak incidence in the second and third decades of life and a gradual decline thereafter with a male dominance and has a considerable predilection for the posterior body of the mandible. Here is the case report of KCOT occurring in left mandible of 55 years old male patient.
Key words- Keratocystic odontogenic tumor, neoplasia, odontogenic cyst

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INTRODUCTION

Keratocystic odontogenictumour (KCOT), formerly known as odontogenic keratocyst (OKC) is a benign unicystic or multicystic intraosseous neoplasm of odontogenic origin, which arises from remnants of dental lamina or glands of Serres.[1] It was first described by Philipsen[2] in 1956 as (OKC). Due to its neoplastic potential, OKC are considered to be benign cystic neoplasms rather than cysts. It has been designated as "KCOT" by World Health Organization (WHO) classification of head and neck tumors in the year 2005. It has a peak incidence in the second and third decades of life and a gradual decline thereafter with a male dominance and has a considerable predilection for the posterior body of the mandible.

Swelling, infection, pain, paresthesia, cellulitis, and trismus are common findings in patients. It has exceedingly high recurrence rate due to the delicate thin epithelial lining, the presence of satellite/daughter cysts in the wall, anteroposterior growth incancellous bone with finger like projections and a high mitotic potential. KCOT is recognized to have a male predilection of a 2:1 ratio. The KCOT stands for approximately 11% of the developmental cysts of the jaw. The age of patients with KCOT covers a wide range from 7-83 years with two peaks. First peak is at 25-34 years and the second peak at 55-64 years.[3] The present paper highlights a case report of KCOT in mandible of 55 years old male patient.

CASE REPORT

A 55 years old male patient complains of swelling on left side of mandible since2 months. History revealed that swelling started as pea size which gradually increased to attain the present side. There was mild, continuous pain in same region. There was no history of trauma or any discharge. On examination, a unilateral swelling was seen on left side of mandible extending anteriorly from 32 to third molar region posteriorly. It measures approximately 5 cm in maximum dimension. It was firm in consistency with egg shell crackling in between. It was slight tender on palpation. CBCT scan of left mandible showed a large punched out osteolytic lesion extending from 32 to edentulous area of 35 36 37 38 region with mild condensation and sclerosis of trabeculae bone (Fig- 1). Thinning and partial effacement of bucco- lingual cortices is observed. There is partial effacement in superior cortex of inferior alveolar canal (Fig- 2). Based on history, clinical examination, and radiological examination a final diagnosis of KCOT was given. The differential diagnosis of ameloblastoma, central giant cell granuloma, Odontogenic myxoma and osteomyelitis was considered. Surgical segmental resection of the right mandible was performed with removal of complete cystic lining with surrounding soft tissue with the use of Carnoy's solution, to minimize the chances of recurrences followed by iliac crest graft placement held in place by reconstruction plate placement. Post-operatively patient managed with intravenous antibiotics, analgesics and other supportive measures.

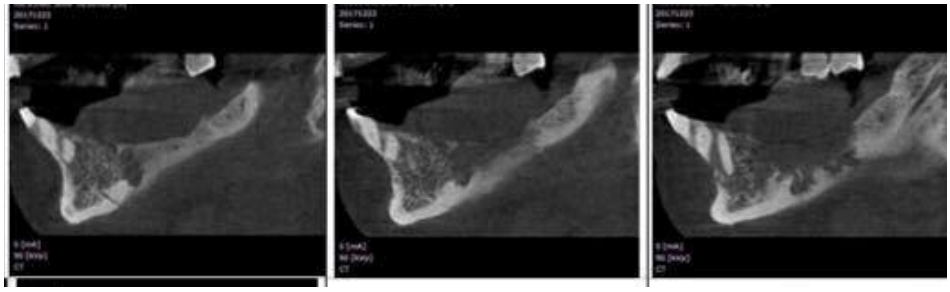

Fig- 1 Osteolytic lesion in left side of mandible

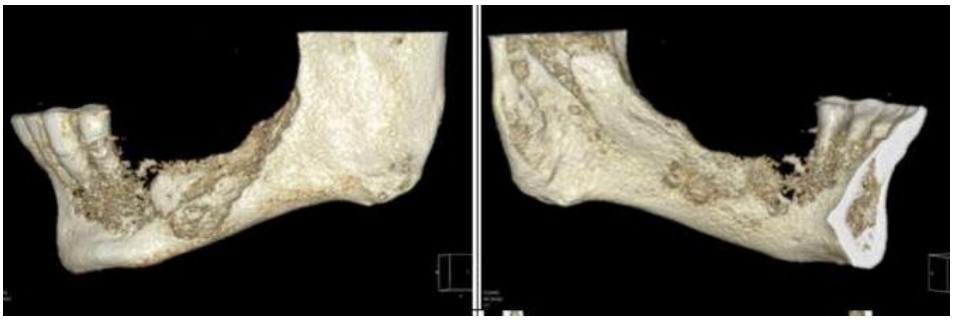

Fig- 2 Effacement of inferior alveolar canal

DISCUSSION

WHO in 2005 included OKC under a neoplasm. Most commonly occur in third and fifth decade. There is slight male predilection. The KCOT have been observed to grow in anteroposterior direction rather than from a buccal to lingual direction within the medullary cavity of the bone. This type of growth may occur without obvious bone expansion. Displacement and resorption of teeth adjacent to the cyst occur; however it should be noted that displacement occurs more frequently than resorption.[4]

Radiographically it is a unilocular or multilocular well circumscribed radiolucent lesion with scalloped and corticated margins. Histologically, the tumor has an epithelial lining that is uniformly thin, generally ranging from 8 to 10 cells layers thick. However, they lack rete ridges and often have an artifactual separation from their basement membrane. The basal layer has palisading cells with polarized and deeply staining nuclei of uniform diameter. The wall is fibrous and contains satellite cysts which can grow and form individual cysts. The luminal epithelial cells are Para keratinized and produce an even corrugated profile.[5]In present study, we reported KCOT in left side of mandible. Benjamin et al[6] in their study, a total of 22 confirmed cases of KCOTs were recorded with equal gender prevalence. The age range of the patients was from 10 to 69 years with a peak in the second decade of life. Of the 22 cases, 15 (68.2%) occurred in the mandible of which eight (53.3%)involved the body, five (33.4%) the angle and ramus. Six (27.3%) occurred in the maxilla, and one (4.5%)was in both jaws and was associated with Gorlin Goltz Syndrome. The most common presenting complaint in most patients was swelling 54.6%, and in 18.2% was incidental finding. Eight (36.4%) cases showed satellite cysts upon pathologic evaluation. Thirteen (59.1%) cases were managed by surgicalexcision, while nine (40.9%) were managed by enucleation. In our case it was seen in 55 years old male patient.

The histological finding shows thin uniform fibrous wall with non-inflammatory changes and small satellite cysts/island of odontogenic epithelium. The thickness of cystic stratified epithelium changes to6-8 cells thick with a detachment of fibrous wall. The lumen shows parakeratotic epithelial cells giving a wavy corrugated appearance. Basal cell layer composed of palisaded arrangement of the cuboidal/columnar hyperchromatic epithelial cells.[7] The differential diagnosis for KCOT includes ameloblastoma, central giant cell granuloma, odontogenic myxoma, calcifying epithelial odontogenic cyst and dentigerous cyst. Marsupialization and decompression are conservative methods and are being used more regularly as a treatment modality for KCOT. These treatment methods decrease the size of the cyst hence minimizing the morbidity.[8]The significant success rate in both marsupilization and decompression as primary or definitive treatment of large KCOTs has been widely recognized.

CONCLUSION

OKC is to an important odontogenic tumor with neoplastic characteristics. Proper clinical and radiographic examination should be performed. Marsupialization and decompression are conservative methods commonly employed for KCOT.

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