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CaseReport

KeratocysticOdontogenic Tumor of Lower Jaw- A Case Report

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***ABSTRACT*:**
Keratocystic odontogenic tumor is a widely seen benign neoplasm in population. The common site is mandibular third molar- ramus region. The literature shows male predominance and it is seen in 2nd- 4th decades of life. The present paper presents a case report of KCOT occurring in 30 years old male patient in mandibular right side.

Key words- Benign, Keratocystic odontogenic tumor, Neoplasm

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INTRODUCTION

OKC which was earlier known as odontogenic keratocyst is now called as (KCOT) Keratocystic odontogenic tumor. Philipsen[1] in 1956 coined the term OKC. Pindborg and Hensen[2] (1963) described its clinical features. Studies have revealed its aggressive nature and invasion which is a typical feature of a tumor. Moreover, it is an expansilelesion which favors its neoplastic nature.KCOT is considered to have keratin produced by lining of cyst. It is 7.8% of all jaw cysts and 5-17% of prevalence. It is more commonly encountered in mandible as compared to maxilla. In mandible, third molar- ramus area is the site of choice and in cases of maxilla, it may extend to involve maxillary sinus, floor of nasal cavity and even maxillary tuberoisity area. It is prevalent in 2nd- 4th decade of life.[3]The swelling in case of KCOT is the main complaint for which patients consult the dentist. Swelling causes expansion in jaw bones. Patient may or may not experience pain but with long standing cases, paresthesia may be seen. The peculiar feature is the recurrence which is due to incomplete removal of lining during surgical enucleation. It is usually associated with unerupted or impacted mandibular third molar. Treatment is enucleation with or without curettage. Cornoy' solution may be used for curettage. Some cases may require enucleation with peripheral ostectomy.[4]The present paper presents a cases report of KCOT.

CASE REPORT

A 30 years old male patient reported to the department with complaint of swelling on right lower half of face (Fig- 1) since 2 months. History revealed that swelling started 2 months back as small size which gradually increased to attain the present size. It was associated with mild, intermittent and non- radiating pain. Patient gave history of numbness of lower lip on right side and chin. Patient denied similar swelling elsewhere in the body or in the past. Medical and dental history was non- contributory.Extra-oral examination showed a diffuse swelling in right lower third of face. Skin over it was stretched. The swelling was hard in consistency. Intraoral examination showed diffuse swelling approximately 3X 3cm in maximum dimension in mandibular right side in relation to second molar (Fig- 2). Swelling extended to involve the buccal vestibule. It was hard in consistency with no blood or pus discharge. 48 was partially erupted. Mandibular lateral occlusal radiograph (Fig- 3) showed a multilocular radiolucency w.r.t first, second and third molar. There was expansion of buccal and lingual cortical plates. Panoramic radiograph (Fig- 4) was done which revealed a large multilocular radiolucency in mandibular right body extending anteriorly from mesial root surface of first molar to ramus till sigmoid notch posteriorly. Superiorly it extended from mid radicular portion of second and third molar to inferior border of mandible inferiorly. The lesion cased thinning and perforation of inferior border of

mandible at some places. All molars showed significant root resorption without displacement of the teeth. The lesion extended and involved the inferior alveolar nerve canal (IANC). The lesion was managed with enucleation and the specimen was sent for histopathological analysis which revealed keratinized squamous epithelium and lack of rete ridges (Fig- 5). Based on history, clinical examination and radiographic and histological examination, a final diagnosis of KCOT was given.

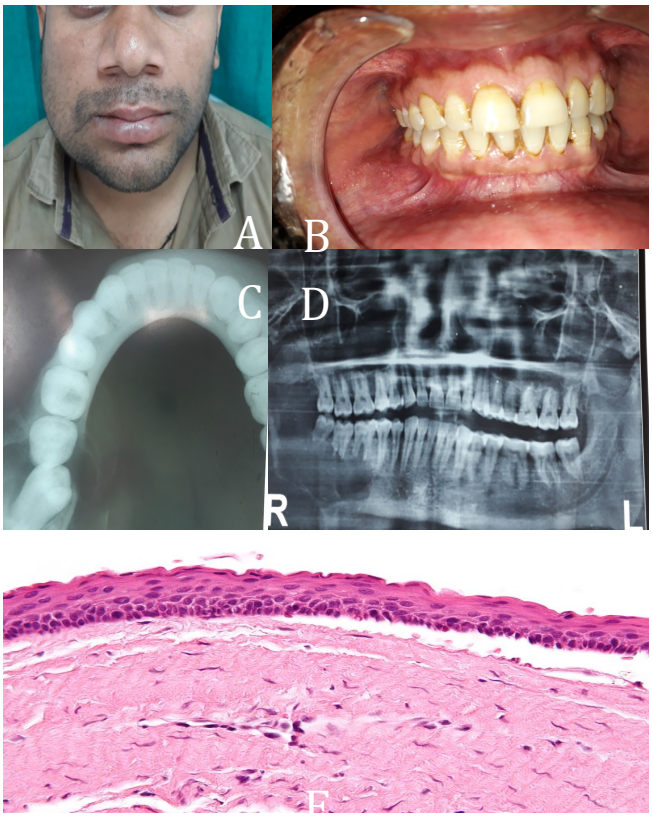

Figure 1-A. Extraoral profile; **B.** Intraoral lesion; **C.** Mandibular occlusal radiograph showing buccal and lingua cortical bone expansion; **D.** OPG reveals multilocular radiolucency wrt 46, 47, 48, **E.** Histopathological picture

DISCUSSION

KCOT is a benign neoplasm which has shown a long journey in relation to its nomenclature. Toller[5] 1967 considered it as benign neoplasm which was later re- named as OKC in year 1971 by WHO. Again in year 1984, Ahlfors[6] termed it as true benign cystic epithelial neoplasm. WHO in year 2005, termed it as KCOT. There are controversies in its nomenclature as cyst or tumor. However, few points favour as cysts and few as tumor. Later on in year 2017, again it has been named as OKC. The classical feature of the lesion is swelling on the involved side which causes facial disfigurement. Swelling is usually painless but in few cases pain may be present. There are four classical types of KCOT. The first variety is replacemental, which occurs in the place of tooth, extraneous which is present away from the tooth especially in the ramus, envelopmental which embraces the involved tooth and collateral adjacent to the tooth. It is usually observed in 2nd and 3rd decades of life. Literature has shown slightly male predominance. In 25- 40% of cases, it is associated with impacted teeth.[7]In present study, we reported it in 3rd decades of life and in male patient. The involved tooth (3rd molar was partially erupted in the oral cavity which favours its diagnosis.[8]Kaushalet al[9] reported 2 cases of KCOT. In their first case, the lesion was present in mandibular third molar region on right side and second case was seen in right maxillary canine region. Our case was also seen in right side with mandibular third molar. It has been seen with various syndromes such as Gorlin goltz syndrome, Noonans syndrome, Marfans syndrome, Basal cell nevus bifid rib syndrome, Orofacial digital syndrome etc. Various studies have revealed recurrence rate of KCOT.

Table I- Recurrence rate in various studies

Study	Recurrence rate
Meara& Others[10]	35%
Chow[11]	10%
Kondell and Wiberg[12]	24%
Marker & Others[13]	9%
Brownie[14]	25%

Recurrence is usually due to incomplete removal of cystic lining, thin and friable lining, parkeratinization of surface layer, bony perforation etc. Differential diagnosis of KCOT includes dentigerous cyst, ameloblastoma, odontogenic myxoma, lateral periodontal cyst, central giant cell granuloma etc. The most commonly employed radiographs are occlusal radiographs, OPG and CT scan. With the advent of CBCT, the diagnosis has become easy and effective. CBCT is useful in covering the desired area. Moreover, all the planes can be visualized efficiently. In present study we took mandibular lateral occlusal radiograph and OPG. In present study we enucleated the lesion. Other useful modalities are enucleation followed by peripheral ostectomy, in which adjacent bone is removed. In cryotherapy, liquid nitrogen is used to kill the cells. This causes electrolyte disturbances in the cells leading to cell death.[15]Jonathan et al[16] reported 21 cases of KCOT. 6 cases were seen in maxilla and 15 were present in mandible. The most common site was right mandibular ramus region. Author observed 29% recurrence rate in his study. The size ranged from 0- 15cm.[2]In most of the cases, enucleation and use of carnoy's solution was performed.

CONCLUSION

KCOT is commonly seen in males and the mandibular involvement is observed in most of the cases. Careful history, radiographic assessment and histological analysis is required to manage the case effectively.

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