



CALCIFIFYING ODONTOGENIC CYST OF GHOST CELL VARIETY- A CASE REPORT

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ABSTRACT

Calcifying Odontogenic Cyst (COC) represents 2% of all odontogenic lesions. The World Health Organization histological classification of the COC includes presence of materials like masses of ghost epithelial cells, dysplastic dentine and the association of the cyst with an area of more extensive dental hard tissue formation. Calcifying odontogenic cyst is a rare lesion of the jaws. Gorlin et al. first described the condition. Gold recommends more descriptive term of calcifying and keratinizing odontogenic cyst. The condition has been referred to as keratinizing ameloblastoma or melanoticameloblastic odontoma. One of the histological features of the condition is the presence of ghost cells. Fejerskov and Krogh⁵ are of the opinion that the lesion initially presents as a solid tumor consisting mainly of ghost cells, and that the cyst development is apparently seen.

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INTRODUCTION

Calcifying ghost cell odontogenic cyst is a heterogeneous group of lesion existing either as cystic or solid variant. The cystic lesion comprises majority of CGCOC accounting for 85% of cases. Clinically, CGCOC may present either as central (85%) or peripheral lesion (15%)¹. It shows bimodal age of occurrence commonly presenting in second and seventh decade of life, shows no predilection towards any gender and occurs in equal frequency in either of the jaw bones, anterior to the first molar in the incisor-canine region², symptomatic bony expansion is the most common presentation of the central lesions, while sessile or pedunculated smooth surfaced mass are features of peripheral lesions³. Radiographically, the central lesion appears as unilocular or sometime multilocular radiolucency with or without calcified structures. Size and opacity of the calcified structure varies, sometime occupying the entire lesional area may be associated with an odontoma (24-35%) or an impacted tooth, most commonly the canine region.⁴

CASE REPORT

A young male patient came to our operatory with a chief complaint of swelling over right anterior region of jaw since 3

months. Pain was intermittent in nature and only after chewing food. Swelling was slowly increasing in size but not associated with any kind of discharge. Medical, dental and family history was not relevant. Clinical extra-oral examination revealed an ovoid 3cm × 5cm swelling over right side infra-orbital region with ill defined borders and nasolabial fold obliteration. Intra-oral examination revealed a soft, fluctuant and non tender swelling measuring around 3cm × 3 cm over the canine vestibular region buccally. (figure 1) Tooth 13 was found to be missing and deciduous 53 was over retained and slightly mobile. Aspiration yielded around 2 ml of thin dark brown exudate. Provisional diagnosis included Adenomatoid Odontogenic Tumour (AOT), Dentigerous cyst, Unicystic Ameloblastoma and COC.

An Orthopantomograph (OPG) demonstrated a well demarcated unilocular radiolucent lesion, associated with an impacted canine. An irregular radiopaque mass was evident within the cystic cavity measuring around 0.5 to 1cm.(figure 2) We decided to proceed with surgical excision along with removal of impacted canine. Biopsy of the surgical specimen confirmed the diagnosis to be Calcifying Odontogenic Cyst of Ghost Cell variety as microscopic examination revealed

eosinophilic masses of ghost cells and some basophilic calcifications.(figure 3)

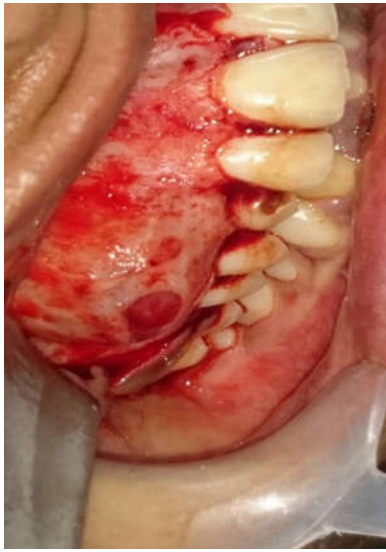


Fig 1



Fig 2

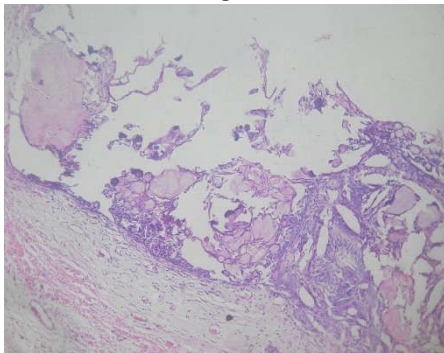


Fig 3

DISCUSSION

COC occurs over a wide age range extending from one year to the eighth decade with an even sex distribution and an even distribution between the maxilla and mandible, more commonly as an intra-osseous lesion.

Ghost epithelial cells are a distinguishing feature when observed in the epithelial cyst lining of the lesion. Calcification of the ghost cells is believed to be dystrophic in nature.¹³

Adenomatoid odontogenic tumour, Dentigerous cyst, Calcifying Odontogenic Cyst and Unicystic Ameloblastoma should be considered in differential diagnosis of swellings associated with impacted teeth.¹¹

The central CGCOC (intraosseous) presents as an asymptomatic hard swelling of the jaw that produces expansion than erosion of bone. Pain indicates secondary infection.⁶ The clinical features in our case were similar to those described by other authors. The cysts are usually discovered as an incidental radiographic finding. Early in their development, they will appear completely radiolucent.⁷ As they mature, they develop calcifications that produce a well-circumscribed, mixed radiolucent-radiopaque appearance. Three general patterns of radiopacity are seen.⁸ One is a salt-and-pepper pattern of flecks, the second is a fluffy cloud-like pattern throughout, and the third is a crescent-shaped pattern on one side of the radiolucency in a “new moon”-like configuration.⁹

CONCLUSION

Presentation of lesions with controversial historical description, terminologies and clinical behavior should be encouraged so that it provides opportunities to understand the actual incidence, biological behavior, treatment and recurrence.⁵ Nomenclature and classification of those particular lesions should be reviewed periodically and should be followed universally.¹²

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