Odontogenic Keratocyst Of Mandible - A Unique Case Report With Literature Review.

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Abstract

The purpose of this paper is to review the features and behaviour of the odontogenic keratocyst (OKC), now officially known as the keratocystic odontogenic tumour (KCOT). 17 year old female came with complaints of swelling over angle and ramus of mandible on left side. She then underwent dental examination and OPG. Followed by MRI. MRI and histopathology suggested as Odontogenic keratocyst of mandible which is rare benign tumor of mandible occurring in younger age group.

Keywords:Odontogenic keratocyst (OKC), mandibular lesion, bone cyst, MRI.

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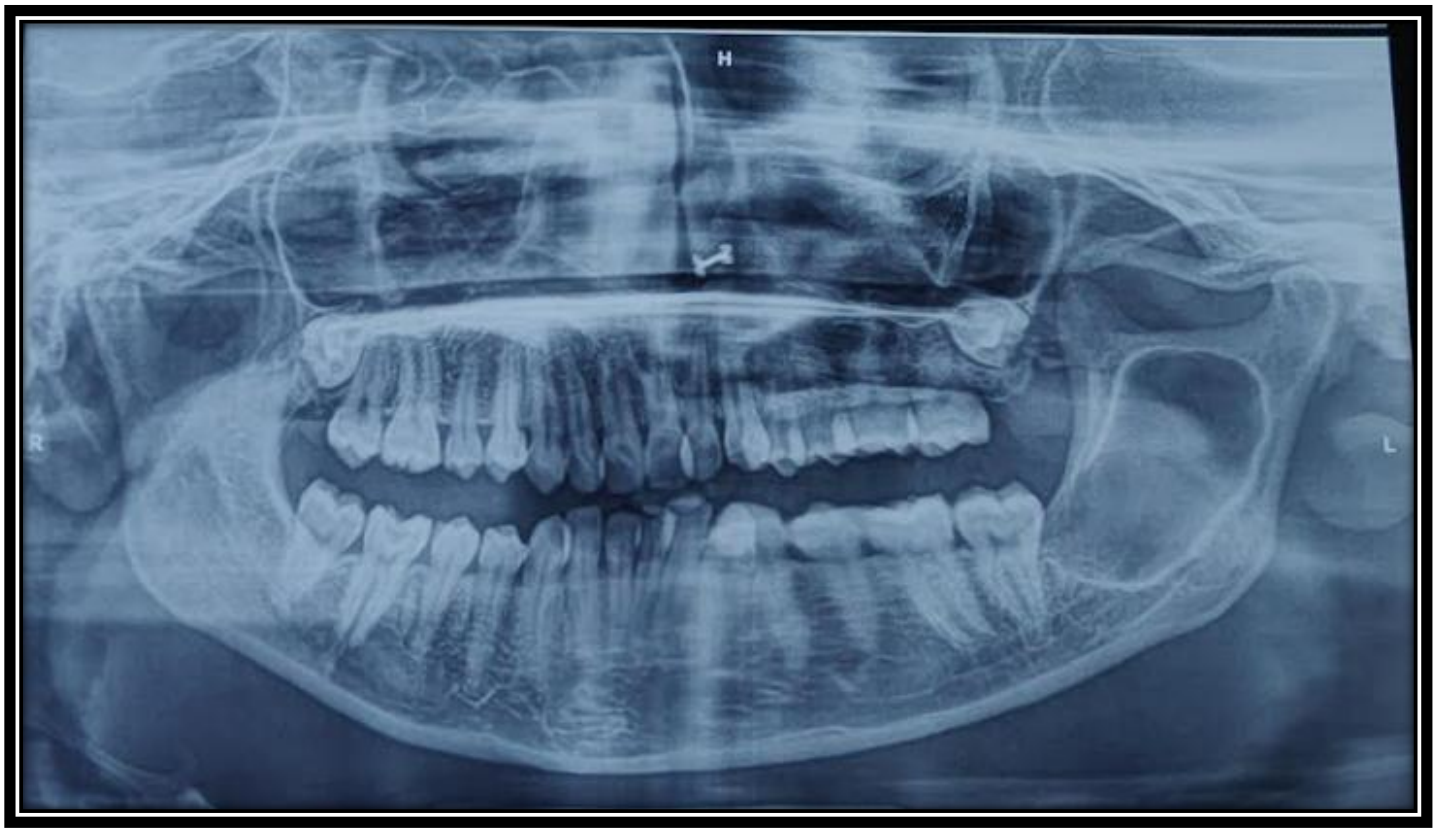
Introduction :

First described by Philipsen in 1956,(1)the odontogenic keratocyst (OKC) is now designated by the World Health Organization (WHO) as a keratocystic odontogenic tumour (KCOT) and is defined as “a benign uni- or multicystic, intraosseous tumour of odontogenic origin, with a characteristic lining of parakeratinized stratified squamous epithelium and potential for aggressive, infiltrative behaviour.” WHO “recommends the term keratocystic odontogenic tumour as it better reflects its neoplastic nature.(2)”. In light of the reclassification, it is appropriate to review the salient features of this well-known lesion and to consider the implications for treatment.

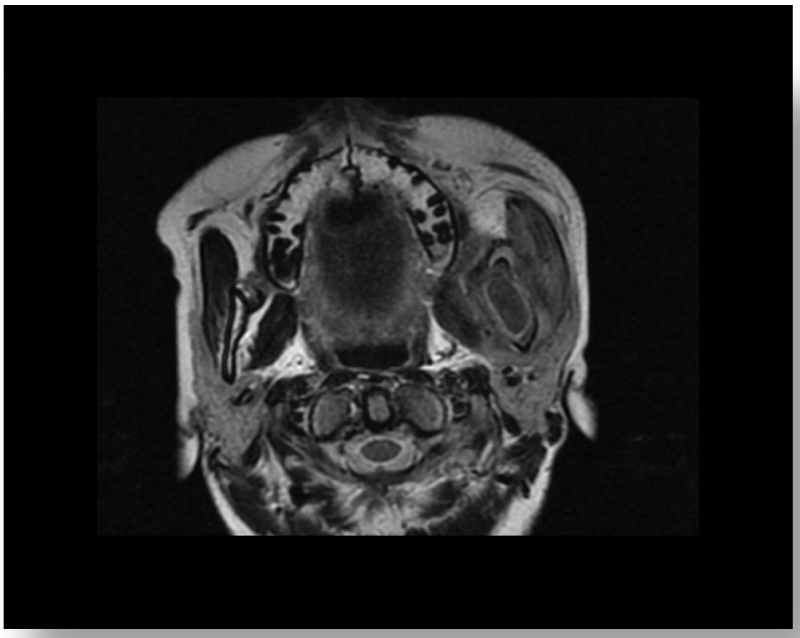
Case details:

17 year old female came with C/OSwelling over the lower left half of face extending from the corner of mouth to the inferior angle of mandible since 6 months.On local examination:Swelling was hard in consistency.Mild tenderness was positive over the swelling with reduced mouth opening.Overlying skin was normal in colour and there was no local rise of temperature.She had no history of trauma in the past.

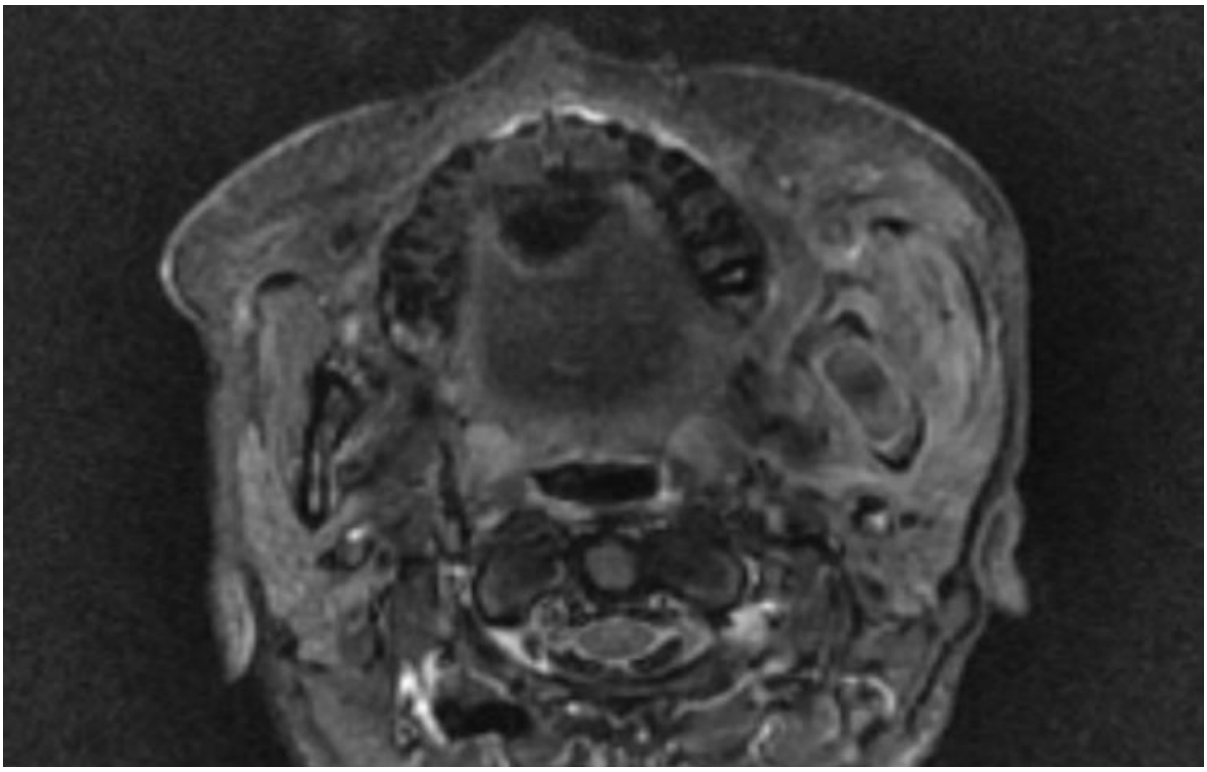
The patient underwent dental examination, dental examination was within normal limits however her OPG showed that her 3rd molar was congenitally missing on mandibular arch (Figure 1). The OPG showed a well defined expensile lytic lesion with sclerotic rim involving ramus and angle of the mandible on left side.



She then underwent MRI scan of mandible, It stated A well-defined expansile altered signal intensity lesion to involve ramus and angle of mandible on left side. The lesion appeared iso-hypointense on T1WI.It appeared hyperintense on T2WI and STIR sequences. (Image 2 and 3).

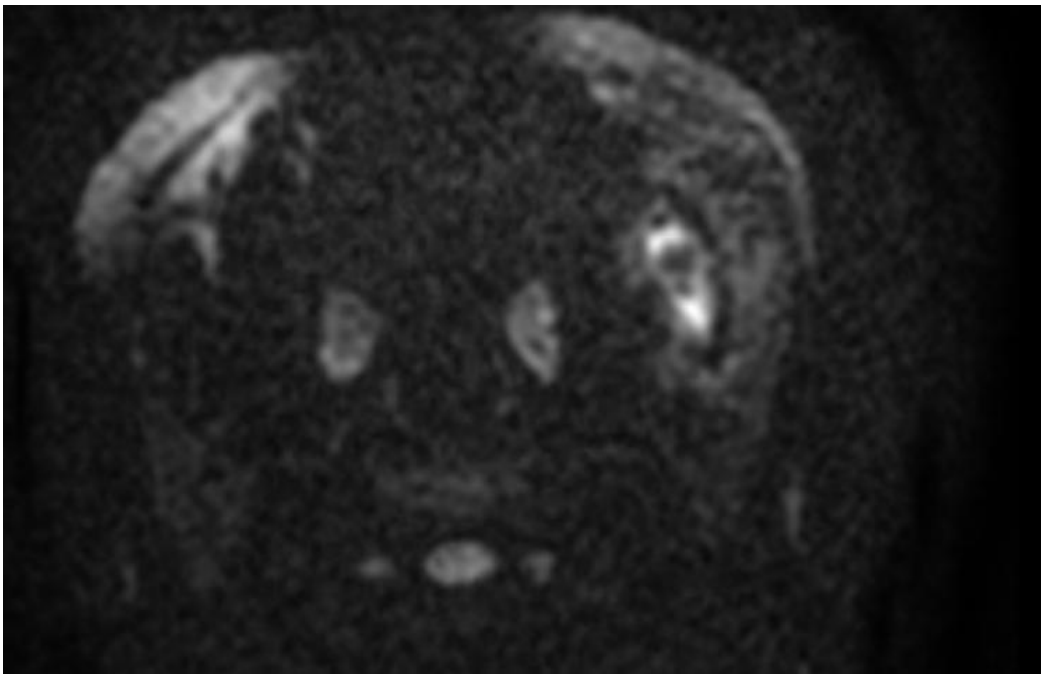


Axial-T2WI (IMAGE-2)



Axial-STIR (IMAGE-3)

It also showed areas of restriction on DWI. (Image 4)



Axial-STIR (IMAGE-4)

She underwent surgery. Under GA full thickness flap raised, curettage and enucleation was done with bone grafting. Sample sent for histopathological examination.Final diagnosis came as odontogenic keratocyst of mandible on left side.

Informed Consent of the patient was taken before performing diagnostic and therapeutic interventions

Discussion:

Odontogenic keratocyst (OKC) is a mandibular cyst formed after developmental or inflammatory factors stimulating the proliferation of epithelial cells surrounding a tooth.Keratocytes are the major component of OKC(3).Most commonly located in the body or ramus of the mandible.Most OKCs possess destructive potential, with a high recurrence rate after resection.Malignant transformation of these lesions is rare.Multiple OKCs in a young patient should raise the possibility of basal cell nevus syndrome (Gorlin-Goltz syndrome)(4,5).Associated findings with this autosomal dominant disorder include midface hypoplasia, frontal bossing and prognathism, mental retardation and calcification of the falx cerebri. The another differential diagnosis of OKC is ameloblastoma(6,7).

Ameloblastoma arises from the enamel-forming cells of the odontogenic epithelium that have failed to regress during embryonic development. Patients typically present in the third to fifth decades of life with a slow-growing, painless mass.The tumor most commonly occurs in the posterior mandible, typically in the third molar region, with associated follicular cysts or impacted teeth (8).

The slow growth of the tumor can lead to significant expansion of the mandible.

Ameloblastoma in a 30-year-old man.

(a) CT scan demonstrates a multiloculated cystic lesion (arrow) within the left mandible. The crown of an impacted tooth (arrowhead) identified within the lesion is a clue to the diagnosis.

(b) Photograph shows a soft-tissue mass in the resected mandible.

(c) (hematoxylin-eosin [H-E] stain) reveals numerous well-defined islands of odontogenic epithelium with palisading and polarizing nuclei (arrows)(9).

Conclusion:

Mandibular lesions develop from both odontogenic and nonodontogenic origins and have varying degrees of destructive potential. Common benign cystic lesions include follicular (dentigerous) cysts, and odontogenic keratocysts (10).Benign solid tumors represent a broad spectrum of lesions such as ameloblastomas, odontomas, ossifying fibromas.Malignant tumors that often involve the mandible include squamous cell carcinomas, osteosarcomas, and metastatic tumors.Based on age, clinical findings and characteristic appearance attempt should be made to reach the closest possible diagnosis to decide the treatment plan(11).

Competing interests

The authors declare no competing interest.

Authors' contributions

All authors contributed equally for the manuscript.

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