

ODONTOGENIC KERATOCYST MIMICKING RADICULAR CYST OF THE MAXILLA – A CASE REPORT

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ABSTRACT

The odontogenickeratocyst is a mysterious developing cyst that requires extra care. It possesses typical histological and clinical characteristics, but its aggressive activity and high recurrence rate set it apart. A benign odontogenic cyst that often affects the mandible is known as an odontogenickeratocyst. Surgeons and pathologists have had a difficult time dealing with these lesions.

OKC was categorised as a cystic lesion by WHO in 1971 and 1991, but in 2005 it was reclassified as a benign lesion because to its aggressive behaviour, growth pattern, clinical, histological, and immunohistochemical nature. In 2017, WHO head and neck pathology reclassified it as a cystic lesion. [1]

There have been a few situations where the maxilla has been affected. Odontogenickeratocysts may damage the maxillary posterior and canine region, according to research.

The present case describes an odontogenickeratocyst that crossed the midline in the maxillary incisor region and was initially classified as an infectious residual cyst. It was diagnosed as an odontogenickeratocyst after a thorough examination.

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INTRODUCTION

The odontogenickeratocyst (OKC) is a form of odontogenic developing cyst first described by Phillipsen in 1956 and is widely recognised for its high recurrence rate. [2]

There are usually no noticeable clinical symptoms, though subsequent infections can produce moderate swelling and pain. Because of their similar appearances and characteristics, odontogenic cysts are frequently misdiagnosed as other cysts and tumours. OKC has a lot to do with the development of the dental lamina and the vestiges of its origin. The tendency of this OKC to grow along the cancellous bone with very little expansion of the cortical bone is a distinguishing aspect of its growth. Local destruction and a proclivity for multiplicity are distinct clinical features, especially when coupled with syndromes such as nevoid basal cell carcinoma syndrome or Gorlin-Goltz syndrome. The tumour usually appears as multilocular radiolucencies with scalloped, well-defined borders in the mandibular third molar region. OKC in the maxilla is uncommon, according to studies. However, occurrences involving the maxillary canine and posterior area have been reported.

CASE REPORT

A 57-year-old woman presented to the Department of Oral and Maxillofacial Surgery with facial edema as her primary complaint. (Fig-1) She first noticed the enlargement eight

months ago, and it progressively grew in size. An uncommon appearance of OKC in the maxillary incisor region crossing the midline is described in this case report.



Figure 1

A bilocularexpansile radiolucency in the right maxilla crosses over the left premaxilla area, causing considerable weakening and perforation of the cortical plates in the implicated bones, according to CBCT. The floor of the maxillary sinus is elevated, and the nasal septum is deviated to the left.(figure 2,3)

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Figure 2

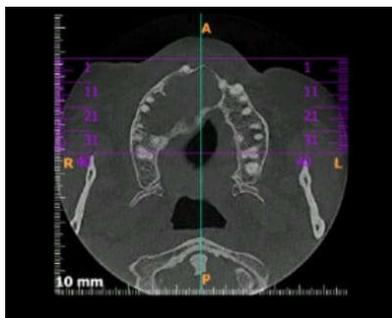


Figure 3

Cyst enucleation was performed under general anaesthesia because to the aggressive nature of the cyst, the patient's age, and its proximity to a crucial anatomic structure, and the excised specimen was sent for histological evaluation..(figure 4,5)



Figure 4

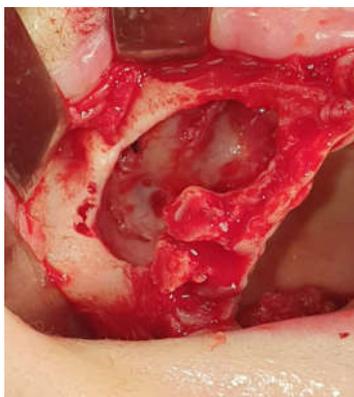


Figure 5

Connective tissue was lined by a thin corrugated parakeratinized stratified squamous epithelium without rete ridges, and the basal layer was made of hyperchromatic columnar cells with the palisading pattern, according to microscopic analysis.

The cystic epithelium and wall interface were both flat, with localised areas of separation. The cystic wall was fibrous, with a relatively dense infiltration of inflammatory cells. Focal portions were bordered with pseudostratified ciliated columnar epithelium characteristic of the maxillary sinus. The lesion was identified as OKC of the maxilla based on clinical, radiological, and histological findings.

DISCUSSION

Because of its distinctive properties, OKC is one of the rare odontogenic cysts that many researchers are interested in. OKC is made up of dental lamina remains found in the mandible and maxilla before tooth production is complete. It could come from the overlying epithelium's basal cells. Patients are frequently affected from their first to ninth decade of life, with a peak incidence in the second to third decade and a minor peak in 50-70 years of age. [3] There is a minor male predominance. Approximately 75% of OKC instances impact the mandible's body, particularly the molar angle ramus region. According to the literature, only a few occurrences of OKCs occur in the maxilla, and the most typical location for OKCs in the maxilla is disputed. According to a study, OKCs are equally distributed across the anterior and posterior maxillae. According to certain research, there are more anterior lesions than posterior lesions..[4] Still, other studies conclude that the posterior region is the predominant site. The canine region is the most typical site of occurrence for OKCs in the maxilla, according to Ali *et al.* The present example shows OKC crossing the midline in the maxillary incisor region, which is a rare occurrence. The proclivity of OKC to grow along the inside aspect of the jaws, generating minimum expansion, is a crucial feature. They are frequently asymptomatic and discovered during routine radiography examinations. Cortical growth was observed in this case, and the lesion looked to have expanded labiolingually rather than mesiodistally.

OKCs have a wide range of radiographic appearances. A cortical boundary is generally visible in OKCs. The tumour may have a scalloped outline or a smooth, round, or oval shape, similar to that of other cysts. Most of the time, the interior structure is radiolucent. The presence of internal keratin has no effect on the radiopacity of the sample. Internal septa that are curved may be present in some cases, giving the lesion a multilocular appearance. [5] Teeth are occasionally dislodged and reabsorbed by OKCs. CBCT was utilised to determine the extent of the lesion in this case.

According to Shweel *et al.*, CBCT has excellent linear, volumetric, and angular precision. [6] As a result, CBCT can be used as a reliable imaging tool to detect odontogenic cysts and tumours while exposing patients to less radiation.

In the literature, several therapeutic options for OKCs have been proposed. Simple enucleation and marsupialization are part of the conservative strategy. Chemical curettage with Carnoy's solution, peripheral osteotomy, and bone resection are all part of an aggressive therapy. [7] A new methodology focusing on molecular aspects has been established as a result of recent breakthroughs in and determination of the molecular foundation of this entity. Hedgehog (Hh) signalling can be inhibited at various levels, and Hh itself can be inhibited.

In cases of OKC, a complete clinical and radiographic assessment is essential. For the radiographic examination of

OKC, CBCT is a trustworthy tool. Every odontogenic cyst or tumour requires a histopathological evaluation. Adjuvant therapy, in addition to vigorous enucleation, is essential because the OKC has a high recurrence rate. Misdiagnosis can result in simple enucleation, which has a high recurrence rate. Periodic follow-up is required to detect recurrences as soon as possible

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