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## KERATOCYSTIC ODONTOGENIC TUMOR-A WOLF IN SHEEP'S CLOTHING!

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#### ABSTRACT

Keratocystic odontogenic tumor or Odontogenic keratocyst is a benign but one of the most locally aggressive type of developmental odontogenic cyst. Due to its invasive abilities in the bone and its high recurrence rate, it shares features of a cyst or a neoplasm and continues to riddle clinicians and researchers. Clinical and radiological expertise lies in diagnosing such lesions which present themselves as a coincidental finding in a routine out patient department. We report an unusual occurrence of a Collateral Odontogenic Keratocyst between the roots of two mandibular molars.

#### KEY WORDS: Odontogenic Keratocyst, Collateral cyst, Cysts of the jaw.

#### INTRODUCTION

Odontogenic Keratocyst was first described by Philipsen in 1956<sup>1</sup>. Pindborg and Hansen (1963) described the essential features of this type of cyst<sup>1</sup>. Keratocyst is so called because of the ability of the cyst epithelium to produce keratin which gradually fills the cyst lumen. Furthermore, flattening of the basement membrane and palisading or tombstoning of the basal epithelial cells and remnants of the odontogenic epithelium are characteristics of the odontogenic keratocyst<sup>1</sup>. Main had proposed the term "Collateral Cysts" to the variety of keratocysts which are adjacent to the roots of the teeth<sup>2</sup>.

#### **Case report**

A twenty- five year old male patient reported with a chief complaint of pain and swelling over the back tooth region of the right side of the lower jaw since 5 days. Patient gave a history of continuous, throbbing and radiating type of pain, which was present 4 months back, with respect to the right first molar of the lower jaw. He had found complete relief on taking Ibuprofen. Medical and personal histories were non contributory. Clinical examination of the patient revealed a diffuse, tender and firm swelling present below the ala tragal line and approximately 2 cms anterior to the angle of the mandible(Fig.1).



Intraorally, the swelling was present in the buccal vestibule which extended antero-posteriorly from 46 to 48. 46 showed tenderness on percussion and 47 was mesially tilted. The swelling was hard, tender, non fluctuant and non- pulsatile with a slight bulge of the lingual cortical plate.(Fig.2)

Chairside investigations proved 47 to be nonvital when tested with an electric pulp tester. Intraoral periapical radiograph revealed a well defi-

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ned radiolucent lesion measuring approximately 1.5 cms in diameter and loss of lamina dura present between 46 and 47 with 47 inferiorly and distally displaced(**Fig.3**).



The panoramic view revealed a well defined unilocular radiolucent lesion which extended anteriorly from the mesial root of 46 to the periapex of 47. The lesion showed scalloped margins with well defined corticated margin(**Fig.4**). The inferior alveolar canal on the right side appeared to be displaced downwards. A diagnosis of periapical cyst with respect to 47 with a differential diagnosis of lateral periodontal cyst, odontogenic keratocyst and collateral cyst was given.



Histopathological report revealed cystic lumen lined by stratified squamous parakeratinised epithelium, around 6 to 7 cell layer thick with palisaded basal columnar cells showing occasional mitosis and a flat epithelial connective tissue interface. Separation of the epithelium from the underlying connective tissue capsule was noted in some areas. Few foci showed hyperplastic epithelium accompanied by dense inflammatory infiltrate in the underlying fibrovascular connective tissue(**Fig.5**).

Thus a final diagnosis of a developmental odontogenic Keratocyst with associated inflammation was made.

### Discussion

Odontogenic keratocyst is a distinctive form of developmental odontogenic cyst with specific histopathological and clinical features<sup>3</sup>. Though it is believed to arise from the cell rests of the dental lamina, some authors have also suggested that it may arise from the extension of basal cells of the overlying oral epithelium<sup>1,3</sup>. The latest WHO classification of odontogenic tumors has given the name "*keratocystic odontogenic tumor*" to these lesions<sup>3</sup>.

Odontogenic keratocysts may occur at any age and are commonly diagnosed in patients between 10- 40 years of age with a slight male predilection. The posterior body and ascending ramus of the mandible are usually involved<sup>3, 4</sup>.

Small lesions are usually asymptomatic and are discovered only during the course of radiographic examination whereas larger lesions maybe associated with pain, swelling, trismus, sensory deficits, infection or drainage<sup>3, 5</sup>.

Main had referred to the variety of Keratocyst which embraced an adjacent unerupted tooth as 'envelopmental', those which form in the place of a normal tooth of the series, he called the 'replacement variety' and those in the ascending ramus away from the teeth he referred to as 'extraneous'. He used the term '*collateral*' for those keratocysts adjacent to the roots of teeth usually in the mandibular premolar region, which were indistinguishable radiologically from the lateral periodontal cyst<sup>2</sup>.

This case differed in the aspect of location, here the collateral variety of the keratocystic odontogenic tumor was present between the first and second mandibular molars.

The radiological appearance may be welldefined, unilocular or multilocular radiolucencies with smooth and often corticated margins. They non

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The diagnosis of odontogenic keratocyst is based on the histopathological features. The frequency of recurrence in various studies ranges from 5% to 62%<sup>3,4</sup>. There is a debate among clinicians as to the most appropriate method of treatment. Treatment goals should be to provide the lowest chance for recurrence with the least degree of morbidity for the patient while still eradicating the pathological process. Some investigators claimed good success with decompression and enucleation; others advocated excision of overlying mucosa, peripheral osteotomy and chemical curettage<sup>3, 7</sup>.



### CONCLUSION

In short, odontogenic keratocyst is an aggressive cystic lesion with neoplastic characteristics. Here we reported a case of a collateral odontogenic keratocyst present in the mandible between two

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molar teeth mimicking a lateral periodontal cyst. One should be careful with these types of lesions and should be able to differentiate them from other entities for better management.

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