



Case Report

CASE REPORT- AMELOBLASTOMA ARISING FROM DENTIGEROUS CYST

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ABSTRACT

The lining or sheath of odontogenic cyst may show transformations into malignancies like squamous cell carcinoma or odontogenic carcinomas like ameloblastomas and adenomatoid odontogenic tumor. The disposition for neoplastic epithelial proliferation in the form of an ameloblastoma is far more pronounced in the dentigerous cyst. We are reporting a case of an ameloblastoma which arose in the wall of a dentigerous cyst. The aim of this paper is to highlight the fact that lesions which appear as dentigerous cyst may have component of ameloblastic changes in the lining.

Key words:

Ameloblastoma, Odontogenic cyst,
unerupted teeth, keratinizing,
unilocular

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INTRODUCTION

The odontogenic tissue surrounding an impacted tooth is prone to develop into odontogenic cyst and tumor. The most common odontogenic cyst arising from pericoronal tissue is dentigerous cyst. A Dentigerous cyst can be defined as one that encloses the crown of an unerupted tooth by expansion of its follicle and is attached to its neck. Though it is considered to be a pliant lesion but possess an unusual ability to undergo metaplasia. In 1933, Cahn first reported case of ameloblastomatous arising in the wall of dentigerous cyst. Though there have to be conflicting reports regarding this transformation but since then there have been numerous publications regarding this occurrence. In this report a case of unicystic ameloblastoma arising from dentigerous cyst in a young male patient is presented.

Case Report

An 18 year old patient reported to the out patient department of Seema dental college and hospital with a chief complaint of symptomatic swelling on the lower left side of the face since 5 years. The swelling was initially very small which gradually progressed to attain its current size. His past dental history was non contributory and general physical examination revealed no abnormality.

Extraoral examination revealed asymmetry of the face with a diffuse swelling extending from anterioposteriorly to corner of the mouth and superioinferiorly into lower border of his

mandible. On palpation, bony hard swelling, rise in temperature and tenderness was observed. Skin over the swelling was normal in color, stretched and appeared smooth. Intraoral examination revealed a swelling obliterating the buccal vestibule and extending from lower left canine to second molar. The patient was subjected to radiographic and routine haematological examination. A panoramic radiograph showed a well defined single unilocular radiolucency associated with unerupted 38. Root resorption was seen w.r.t 34,35,36,37. The haematological findings were not significant. Based on clinical and radiological pictures provisional diagnosis of dentigerous cyst was given with differential diagnosis of Odontogenic keratocyst, ameloblastoma being considered.

The cyst was enucleated and 34,35,36,37 and 38 were extracted. The excisional biopsy was sent for histopathological examination. On macroscopic examination, the specimen measured 8X6.5X3 cm in size, was firm in consistency and brownish in color.

On microscopic examination, the H&E stained section of soft tissue revealed a cystic lumen and stratified squamous non keratinizing epithelium of 3-4 layers akin to reduced enamel epithelium. The epithelium was proliferative at areas in a plexiform ameloblastomatous pattern and was seen to be extending into lumen. The connective tissue beneath the epithelium appeared thick and densely collagenous. Focal collections and dispersed sprinkling of chronic inflammatory infiltrate was seen in the connective tissue. Numerous nests of

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odontogenic epithelium were appreciated in the capsule. Histopathological diagnosis of dentigerous cyst with focal ameloblastomatous changes was given.

DISCUSSION

Dentigerous cyst is 2nd most common odontogenic cyst. A typical dentigerous cyst clinically presents as in unilocular radiolucency enclosing the crown of unerupted tooth at the cemento-enamel junction. Usually, though the diagnosis of dentigerous cyst is straight forward but at times radiographically it can be diagnosed as dental follicle, a hyperplastic dental follicle, kcot. Therefore, histological diagnosis of these lesions becomes critical. Most of the dentigerous cysts are seen in the 2nd and 3rd decade of life often developing around the crowns of mandibular third molar as was seen in our case.

The epithelium of odontogenic cysts may be transformed into odontogenic tumors like ameloblastoma and adenomatoid odontogenic tumors, or non odontogenic tumors (Deshmane S *et al.* Unicystic Ameloblastoma arising from a Dentigerous Cyst) however the frequency of such neoplastic transformation is very low (jomfp, 2018, kondamari). Many etiological factors have been proposed for the ameloblastomas arising from odontogenic cysts, including; nonspecific irritational factors (extraction, trauma, infection, inflammation, unerupted tooth), nutritional deficiency, viral infections. Ameloblastoma is the most common odontogenic tumor, accounting for 10% of all such tumors. It is a slow-growing neoplasm, usually occurring in young adults 20–40 years old, with almost equal distribution among men and women. It occurs in the mandible in 80% of the patients and 70% of these arise from the molar-ramus area (Deshmane S *et al.*: Unicystic Ameloblastoma arising from a Dentigerous Cyst).

Unicystic ameloblastoma are variants of ameloblastoma which were first described by robinson and martinez, which refer to those cystic lesions that show clinical and radiological features of the odontogenic cyst but on histological examination it reveals typical ameloblastomatous epithelium which lined part of the cyst cavity with or without luminal or mural tumor proliferation. Around 15-20% of UA form in the wall of dentigerous cyst. (jcdr, 2014, bhushan).

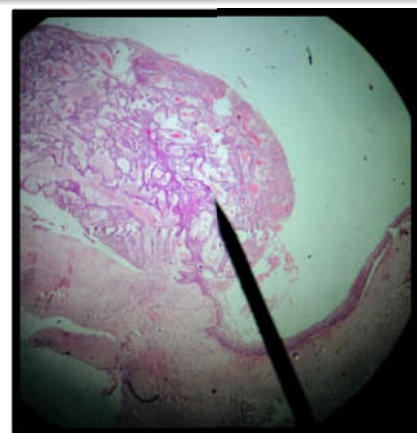
Recent studies have found that tumor marker slide like P63, CD10 and osteopontin SEEM TO BE upregulated in dentigerous cystin the process of transformation to ameloblastoma. Levanat S. *et al.*, have stated that in their study lining of DC originates from single cell that implies a neoplastic genotype. However, Shear believed that most of the dentigerous cyst converting into ameloblastoma mostly histopathological variations that exist in odontogenic tumours, especially cystic components. (JCDR JAYANANDAN)

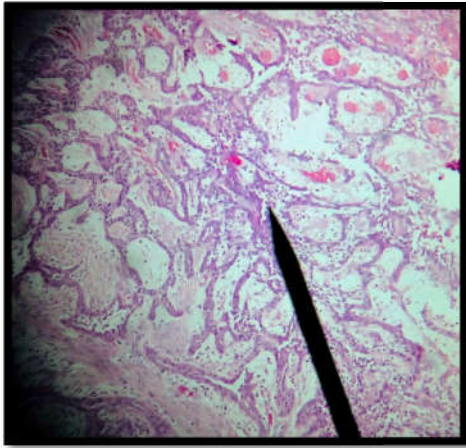


Figure 1 Photomicrograph showing extraoral swelling, revealing a diffuse swelling over the left side of the face



Figure 2 Photomicrograph showing radiolucency in the posterior part of the mandible.





CONCLUSION

The origin of ameloblastoma from the dentigerous cyst is still controversial. Our present case, making a diagnosis was only possible because histopathological examination of the enucleated material was performed. Thus, histopathological examination is the most sensitive tool used for the differentiation of the dentigerous cyst from the unicystic ameloblastoma. This case highlights the potential for neoplastic transformation.

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