

UNICYSTIC AMELOBLASTOMA OF MANDIBLE - DIAGNOSTIC DILEMMA - A CASE REPORT

■ Dr. Ravi S. Batra
Dr. Manav Ahuja
Dr. Vijaylaxmy

Abstract

This article discusses a case report of ameloblastoma located periapically & interradicularly having similar appearance that of odontogenic cyst. In order to collect appropriate information for the diagnosis of an ameloblastoma which requires differentiation from odontogenic cyst, there are two basic categories we should observe. One is the clinical manifestations including age, history, signs and symptoms of the patient. The other is the radiographic pattern and configuration including location, size, shape, radiolucency, periphery root resorption, bony expansion, and relationship to the adjacent anatomic landmark. But the confirmatory diagnosis always relies on the histopathological report.

The patient was treated with en-bloc resection, maintaining the lower border of mandible, and is on follow-up.

Introduction

Ameloblastoma is an entirely epithelial tumor arising from the dental lamina, hertwig sheath, the enamel organ, or the lining of dental follicles/dentigerous cysts^{1,2}. It is the most common epithelial odontogenic tumor and usually occurs in individuals aged 20-40 years; however, the unicystic variant most often occurs in adolescents with posterior mandible being the most



FIG 1: Pre-op extra-oral view; Note the absence of facial deformity



FIG 2: Intra oral pre-op view. No signs of obliteration of buccal vestibule



FIG 3: Orthopantomogram showing well circumscribed radiolucency in relation 35,36,37. Note the root resorption in rel to 36

common location^{3,4}; only 20% of lesions are found in the maxilla 12 with no sex predilection.

This article presents a case of radiolucent lesion, that on first histological examination was diagnosed as an odontogenic cyst, which was not correlating with the clinical and radiographic findings (tumor like lesion). Therefore a repeat multisite biopsy was done which led to final diagnosis of ameloblastoma.

Case Report

A 20 year old male patient reported to the Department of Oral & Maxillofacial Surgery, S.G.T. Dental College & Hospital, Gurgaon, complaining of occasional mild pain in the left mandibular body region since 6 months. There was no history of swelling, discharge or severe pain.

On examination patient was moderately built & nourished. Extra oral examination revealed no obvious swelling (See Fig. 1). Overlying skin was normal in the region. On palpation bony hard swelling was palpable but was non-tender.

Intraoral examination revealed a normal healthy mucosa with no ulcerations (See Fig. 2). Associated teeth showed no displacement or deviation in the region. Mild non-tender swelling was observed on palpation.

Radiography (Orthopantomogram) shows a radiolucent lesion on left side of mandible extending from 2nd premolar to 2nd molar anteroposteriorly and from crest of alveolar ridge to

➤ oral and maxillofacial surgery

lower border of mandible inferiorly but not involving the lower border. It was a unilocular radiolucency with well defined margins. Severe root resorption seen in relation to mesial root of 1st molar^{5,6} (See Fig 3). The pulp vitality test was important for the differential diagnosis between a periapical cyst and an odontogenic keratocyst. Diagnosis of the latter still could not be excluded

Aspiration and incisional biopsies were performed and the histopathological report revealed more than one conclusive diagnosis.

On the basis of these considerations, it is of significant importance to provide an appropriate diagnosis derived from the differential diagnosis for guidance to a corresponding and successful surgical procedure.

Histologic Characteristics

Ameloblastoma does not have a capsule. The neoplastic component is purely epithelial and resembles the cap stage of odontogenesis (i.e. polarized tall columnar cells on the outer aspect of the lesion with SR on the inner aspect, which may form a cyst). The lesion may have a reactive connective tissue component that is not neoplastic. This is a nonfunctional tumor, i.e., no induction of other dental tissues is present, which in turn is unable to induce enamel formation¹¹. In effect, these tumors represent arrested odontogenesis. Multiple histologic varieties exist, e.g., the acanthomatous type in which the SR is replaced by squamous cells and pearls, the granular cell type in which the SR is replaced by granular cells and the plexiform type in which the SR is reduced or absent⁵.

Histopathological picture revealed severe dysplastic changes in odontogenic epithelial lining and created dilemma (Fig 4). According to literature occasionally a unicystic ameloblastoma, particularly that of a plexiform type⁷, is misdiagnosed as inflamed cyst with hyper plastic epithelial lining.

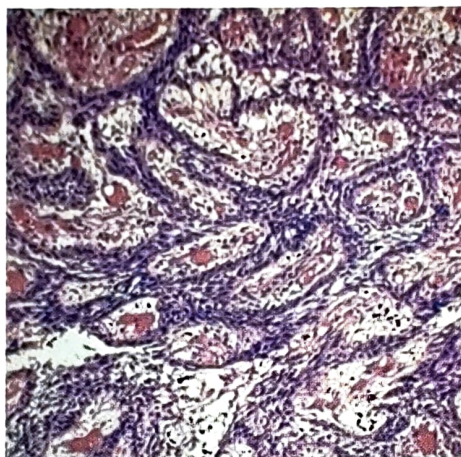


FIG 4: Histological picture confirming diagnosis of unicystic ameloblastoma



FIG 5: Intra-op view showing en-bloc resection

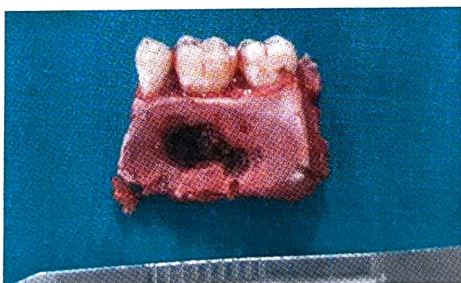


FIG 6: Specimen showing buccal plate perforation

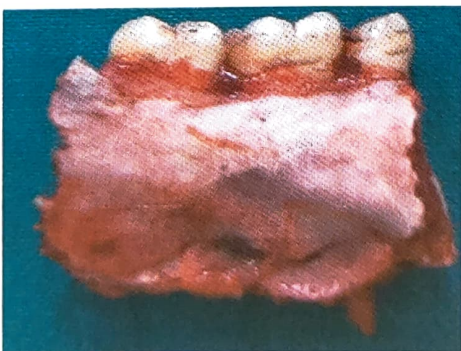


FIG 7: Lingual aspect of the specimen shows slight bone expansion

Biopsy of a unicystic ameloblastoma may not lead to the correct diagnosis



FIG 8: Orthopantomogram 6 months post-op shows no signs of recurrence

because of non inclusion of the ameloblastic epithelium lining in the specimen therefore any unicystic lesion should undergo multiple sites biopsy in an attempt to reach final diagnosis.

Going by this literary knowledge we performed a repeat biopsy at multiple sites reaching to diagnosis of plexiform ameloblastoma¹³.

Patient was operated for en bloc resection of mandible maintaining the lower border⁸ (Fig 5) from distal of mental foramen till third molar on affected side. Specimen (Fig 6, 7) was sent for histopathological review

Conclusion

Unicystic ameloblastomas are well known to be lined by a variable epithelium ranging from one that has typical ameloblastic characteristics to one that is metaplastic and which appears completely nondescript, consisting of several layers of nonkeratinizing squamous cells. In fact, such squamous metaplasia is a relatively frequent phenomenon in unicystic ameloblastomas and many of these lesions are lined predominantly by such nondescript epithelium. In such cases the differentiation of odontogenic cysts, such as residual and dentigerous cysts from the unicystic ameloblastoma can be problematic^{9,10}. In this case, we have faced this problem. The definitive diagnosis must be done by histopathological investigation. Unicystic ameloblastomas and dentigerous cysts have an identical clinical and radiographic appearance. So in these cases, clinical and radiographic appearance is not

reliable for diagnosis. All tissue specimens' recovered in surgery should be submitted for histopathological analysis.

This case report clearly indicates the importance of repeat biopsy whenever the histo-pathological reports do not match with the clinical and radiographic findings. Whenever in doubt, especially when the diagnosis is going to alter the treatment modality, it is prudent to consider the literature again. Various unilocular radiolucent lesions can be broadly classified as, cyst like, tumors, & other pathologies. Various cyst like lesions e.g. radicular cyst, lat. periodontal cyst, nasopalatine cyst and dentigerous can be excluded either by vitality test, location or behavior. Tumors e.g. early CEOT, AOT, intra-osseous squamous cell carcinoma can be differentiated on basis of margins or mixed radiopacity-radiolucency. But lesions like odontogenic keratocyst, unicystic ameloblastoma and dentigerous cyst can only be differentiated by histo-pathological study.

With this report, the authors illustrate the importance and complexity of a differential diagnosis of lesions with a cystic aspect, among them - inflammatory radicular cysts, odontogenic keratocysts, adenomatoid odontogenic tumor and unicystic ameloblastoma. Relevant diagnostic problems of unicystic ameloblastoma⁹ are presented along with a review of the literature.

The patient is on a regular follow-up and no radiographic signs of any recurrence have been observed.

References

1. Poshick JC. Craniofacial and Maxillofacial Surgery in Children and Young Adult. Philadelphia, PA, Saunders, 2000: pp 678-689.
2. Taiserr A.L., Khansa T.A. Ameloblastoma in Young Jordanians: A Review of the Clinicopathologic Feature and Treatment of 10 Cases, Journal Maxillofac. Surg. 2003; 61: 13-18.
3. Reichart PA, Philipsen HP, Sonner S. Ameloblastoma: biological profile of 3677 cases. *Eur J Cancer B Oral Oncol* 1995; 31B: 86-99.
4. Munir M. Ameloblastoma of the jaws. *Gan To Kagaku Ryoho* 1999; 2: 261-267.
5. Ackermann GL, Altini M, Shear M. The unicystic ameloblastoma: a clinico-pathological study of 57 cases. *Journal of Oral Pathology* 1988; 17: 541 6.
6. Eversole LR, Leider AS, Hansen LS. Ameloblastomas with pronounced desmoplasia. *Journal of Oral and Maxillofacial Surgery* 1984; 42: 735 40.
7. Kramer IRH, Pindborg JJ, Shear M. World Health Organization. Histological typing of odontogenic tumours (2nd edn). Berlin, Germany: Springer Verlag, 1992, pp 11-13.
8. 1997: Olaitan A A; Adekeye E O Unicystic ameloblastoma of the mandible: a long-term follow-up. *Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons* 1997;55(4):345-8; discussion 349-50.
9. Gardner DG. Plexiform ameloblastoma; a diagnostic problem with dentigerous cysts *Cancer* 1981;47:1358-1363.
10. Coleman H, Altini M, Ali H, Doglioni C, Favia G, Maiorano E. Use of calcitonin in the differential diagnosis of unicystic ameloblastomas. *Histopathology* 2000; 38:312
11. Li T-J, Wu Y-T, Yu S-F, Yu G-Y. Unicystic Ameloblastoma: a clinicopathologic study of 33 Chinese patients. *The American Journal of Surgical Pathology* 2000; 24:1385 92.
12. Philipsen HP, Reichart. Unicystic ameloblastoma. A review of 193 cases from the literature. *Oral Oncology* 1998; 34: 317 25.
13. Lionel Gold: ODONTOGENIC Tumors; Surgical pathology and management :Fonseca Oral and maxillofacial Surgery.

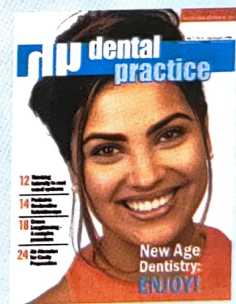
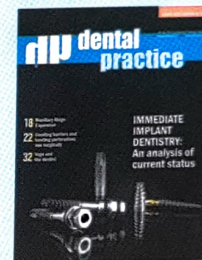
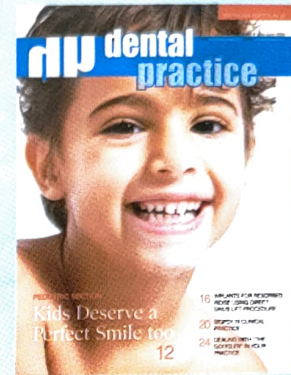
Dr. Ravi S. Batra

Professor, Dept. Of Oral & Maxillofacial Surgery, S.G.T. Dental College, Hospital & Research Centre, Budhera, Gurgaon (Haryana)

Dr. Manav Ahuja, Senior Lecturer

Dr. Vijaylaxmy, Senior Lecturer

If it's number ONE



It's DENTAL PRACTICE

The leading dental publication in the Indian sub-continent

LEADERS IN CONTENT, REACH AND OVERALL POPULARITY

www.dental-practice.biz

MEDIMEDIA INDIA

SKIPPER CORNER, 88 NEHRU PLACE, NEW DELHI 110019, INDIA

Tel: +91 11 26433115 26280761

email: info@dental-practice.biz

Web: www.dental-practice.biz