

## Unicystic Ameloblastoma of Mandible

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### INTRODUCTION

Unicystic ameloblastoma, is one of three clinical variants of ameloblastoma, the other two being the more common intraosseous solid or multicystic (conventional) ameloblastoma and are rarely encountered as peripheral ameloblastoma (Robinson & Martinez, 1977). This variant of ameloblastoma has become established as a distinct clinicopathological entity not only on the basis of its unicystic radiographic appearance but also of its histopathologic features. It is often associated with an unerupted tooth with its occurrence more commonly in mandible of younger patients. It has been also seen that the recurrence rate after conservative surgical treatment is much lower as compare to its conventional counterpart. unicystic ameloblastoma classified into three types with prognostic and therapeutic implications (Ackermann et al, 1988):

- a). Type 1 comprises of unilocular cystic lesions lined by epithelium exhibiting features of ameloblastoma
- b). Type 2 comprises of epithelial nodules arising from the cystic lining and projecting into the cystic lumen. These nodules comprised epithelium with a plexiform or follicular pattern resembling that seen in intraosseous ameloblastoma. In both of these types, the cyst lining shows features of ameloblastoma but often in focal areas, and there is no evidence of infiltration of the fibrous tissue wall by ameloblastoma
- c). Type 3 is characterized by the presence of invasive islands of ameloblastomatous epithelium in the connective tissue wall of the cyst, and these islands may or may not be connected to the cyst lining

These types of lesions are usually painless and slow growing, which may expand the cortical plates and mostly erode them with invasion of adjacent soft tissue. These variants are found with equal sex predilection. The incidence ranges from 2<sup>nd</sup> to 5<sup>th</sup> decade of life.

### CASE REPORT

A 38-year-old male patient was reported to our Department (oral & maxillofacial surgery), at Pacific Dental College & Research Centre, Udaipur with complaint of large painless swelling of the right mandible. Swelling was present since past 5 months and it was slowly increasing in size. There was no history of trauma. On Clinical examination represents gross buccal expansion from right body to angle region of the mandible (Fig. 1). Intra orally swelling extended from the lower right first premolar to 2<sup>nd</sup> molar region and which was found to be firm in consistency. There was no sign of paraesthesia on this region.



**Fig .1:** Extra oral swelling extending from right body to angle of mandible

Radiographic examination: OPG revealed a well demarcated radiolucent area involving the right body and angle region of mandible (Fig.2). It extended from the lower right first premolar region to the 2<sup>nd</sup> molar region of right side of

mandible. the lesion involves root apices of the lower right first pre molar which appeared to be resorbed. On complete blood count examination, a mild raise in neutrophil counts was observed.



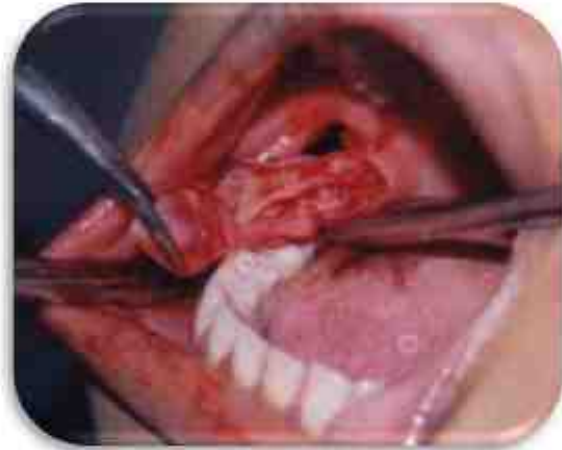
**Fig. 2:** Orthopantomogram showing well defined radiolucency at root apex from right second premolar to third molar region

An incision was made from second premolar to second molar region (envelope flap), flap was reflected exposing the lesion, that shows small perforations of the buccal plate of bone. Small bony window was created using round bur no.7. On exploration the cystic wall was ruptured which shows discharge of straw coloured fluid. Enucleation of cystic lesion done along with removal of half the buccal plate & peripheral osteotomy (Fig. 3). A freshly repaired carnoy's solution was used to clean remanants of cystic lining (chemical cauterization), A freshly prepared iodoform soaked ribbon gauze was inserted into the bony cavity for secondary healing of cavity and partial closure done with 3-0 vicryl in order to

retain iodoform gauze in socket. Iodoform ribbon gauze was replaced every 2<sup>nd</sup> week as the cavity formation of secondary granulation tissue and apparently healing well. After 45 days complete closure was done using 3-0 silk. At that time, on examination we found that the lower right second premolar was slightly mobile as a result of buccal decortication done as a part of operative procedure during surgery and the root resorption that has taken place during cystic enlargement (preoperative). Patient was then referred to Department of Conservative & Endodontics for RCT in relation to 44 & 45. Right labial anaesthesia was present.



a)

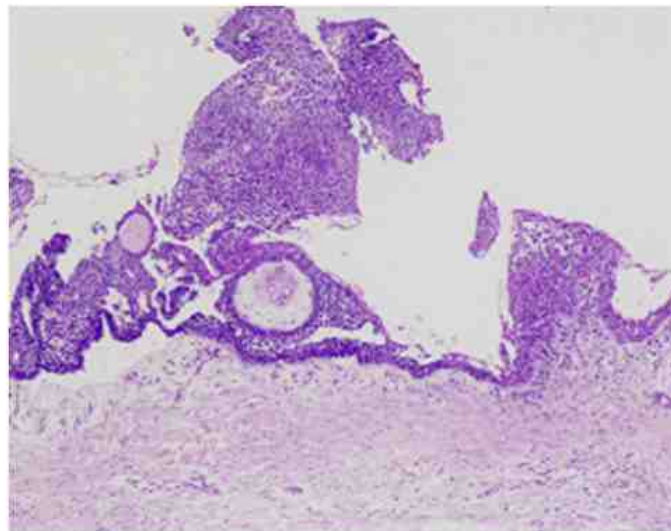


b)

**Fig. 3:** a). vestibular incision was placed from right second premolar region to angle region of right side of mandible raising envelop flap; b). Enucleation of cystic mass along with extraction of involved tooth

As a result of soft tissue biopsy histopathological examination shows the cyst lined by the typical ameloblastomatous epithelium with a basal layer comprised of columnar cells. These layer conquered by a layer of cells with stellate reticulum-like features (Fig.4). On above mentioned features, Unicystic Ameloblastoma of the Mandible was diagnosed, On Post-operative follow ups the patient showed good progress in healing of bony cavity and the paraesthesia on involved side

gradually resolved. Post operative radiographs, showed satisfactory bone healing by secondary intention and there was no sign of further progression of resorption of the roots of involved tooth, and after endodontic treatment, the associated tooth mobility drastically reduced and has been periodically reviewed for that. After five years of our follow ups there was neither any further symptoms on that site nor any sign of recurrences.



**Fig.4:** shows typical ameloblastomatous epithelium with a basal layer of columnar cells conquered by a layer of cells with stellate reticulum-like features

## DISCUSSION

However, the radiographic features of the unicystic ameloblastoma is similar to its other variants and to primordial cysts. The unicystic ameloblastoma may attain considerable size with either multilocular or unilocular appearance. The border of the lesion is usually well-defined without any radiographic evidence of invasion into the surrounding bone. There may be often seen lesion with diffuse borders that represents a less favourable tissue response or faster growth of lesion.

Mural invasion can be difficult to detect unless serial sectioning of the specimen with thorough microscopic examination are performed to make an accurate diagnosis. The whole specimen needs to be actively screened for mural invasion in every case of unicystic ameloblastoma to determine the true prevalence of histological subtypes in any series. Until recently, the paucity of information in the literature probably reflected the difficulty in collecting the information on histological subtypes.

It is generally believed that the presence of tumour cells in the fibrous capsule of unicystic ameloblastoma, like in type 3 lesions, predisposes to recurrence after enucleation. The freshly prepared Carnoy's solution that comprised of: chloroform 3 ml, absolute alcohol 6 ml, glacial acetic acid 1 ml, ferric chloride 1 gm; act as a sclerozing agent for the chemical cauterization, after cyst enucleation, and also use today as a fixative. It can be concluded from this case report that after enucleation of unicystic ameloblastoma with mural invasion chemical cauterization with Carnoy's solution and peripheral osteotomy shows less recurrence of lesion. Recurrence can be attributed to other factors such as offending tooth is either not extracted or endodontically treated, in such cases lesion can recur after 2 to 4 years of treatment.

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