

# UNICYSTIC AMELOBLASTOMA OF THE MANDIBLE IN 16YEAR OLD GIRL: A CASE REPORT

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## Abstract

Ameloblastoma is a slow growing persistent and locally aggressive true neoplasm of odontogenic epithelial origin accounting for 10% out of 30% of all odontogenic tumours. It is the 2<sup>nd</sup> most common odontogenic neoplasm. According to WHO ameloblastoma are classified into the following types: a) Conventional; b) Unicystic; c) Peripheral. Unicystic ameloblastoma are those cystic lesions which show clinical, gross or radiographic features of a cyst, but on histological examination reveals a typical ameloblastoma like epithelium with or without luminal and/or mural tumour growth. It accounts for 5-15% of all intraosseous ameloblastoma. Recurrence of unicystic ameloblastoma may be long delayed and a long-term post-operative follow up is essential. Here we are presenting a case of unicystic ameloblastoma in a 16 year old female patient.

**Keywords:** Ameloblastoma, Odontogenic Tumor, Unicystic

## Introduction

Major cause for mandibular swelling is benign lesion & benign lesion can be odontogenic & non-odontogenic cyst or tumor. Lesions include ameloblastoma, dentigerous cyst central giant cell granuloma, keratocystic odontogenic tumor, radicular cyst. Ameloblastoma is one of the most common benign odontogenic tumors, accounting for approximately 1% of all tumors and cysts of the jaws and 10% of all odontogenic tumors.<sup>1</sup> Ameloblastoma is a slow-growing, locally aggressive & persistent neoplasm of epithelial origin. Its peak incidence occurs in 3rd to 4th decades of life and is common in both sexes. It is commonly associated with an unerupted third molar.<sup>2</sup> Unicystic ameloblastoma (UA), refers to those cystic lesions that show clinical and radiological features of an odontogenic cyst but in a histological examination show ameloblastomatous epithelium lining the cyst cavity with or without luminal or a mural proliferation.<sup>3</sup> UA represents 5-15% of ameloblastoma cases and tends to occur in a younger population as compared to conventional ameloblastoma.<sup>4</sup> This paper illustrates a case of Unicystic ameloblastoma in the mandible of a 16 year old girl.

## Case report

A 16 yr old girl, reported to the outpatient department of pediatric & preventive dentistry, Teerthankar Mahaveer Dental College & Research Centre, Moradabad, India, with the chief complaint of painless swelling on the right side of lower jaw for last 8 months, for which she got her mandibular right 2<sup>nd</sup> premolar i.e, 45 extracted under local anesthesia 6 months back.

*1<sup>st</sup> appointment:* -

The patient was seated comfortably in the dental chair. And a thorough intra oral & extra oral check up was done. There was no associated pain, difficulty in opening the jaw, chewing or occlusion. An extra oral examination a diffuse



Fig 1: Extra oral swelling

swelling in the right lower posterior region of the mandible was seen causing facial asymmetry. Overlying skin was normal in colour, texture & consistency & was not adhered to underlying swelling. There was no increase in temperature. Intraoral examination revealed very slight diffuse swelling in the posterior region of right mandible. On physical examination, there was a hard non-tender mass, on the right side of the mandible, involving body of mandible from the distal aspect of canine to the distal aspect of 1<sup>st</sup> permanent molar. The overlying oral mucosa was red, intact & immobile. There was no lymphadenopathy or fistula. Past medical history were unremarkable. On examination no other abnormalities were seen. She was not on any medication & had no history of known drug allergy. An orthopantomogram (OPG) investigation was carried out, which revealed a large unilocular radiolucent lesion well circumscribed by a radiopaque border on the right side of the mandible.



Figure 2: OPG

2<sup>nd</sup> appointment: -

The patient was called the next day for her 2<sup>nd</sup> appointment. After a thorough extra oral & intra oral examination Fine Needle Aspiration Cytology (FNAC) was Planned. Fine Needled Aspiration Cytology of the lesion was carried out. The lesion was perforated with a wide bore needle to rule out vascular lesion & aspirate the content. The aspirated fluid was sent for pathological evaluation & the report stated suggestive of an infected cystic lesion. Based on the FNAC & OPG surgical removal of the complete lesion under local anaesthesia was planned. For the surgery to be carried out patient was advised to get routine hematological test done. Hematological reports were normal, hence surgery could be carried out normally.

3<sup>rd</sup> appointment: -

The patient was given inferior alveolar & long buccal nerve block. Two vertical incisions & one releasing incision were given & a full thickness flap was reflected. Enucleation of the lesion was carried out under local anaesthesia with a provisional diagnosis of radicular cyst. After removal of the lesion cystic cavity was curetted & irrigated thoroughly.



Fig 3: Enucleation of lesion

Non resorable 3-0 Ethicon suture was placed. The removed cystic lesion was sent for histopatological examination to the oral pathology department.



Fig 4: Non resorable suture placed

4<sup>th</sup> appointment: -

Complete check up was done for any abnormal finding & through irrigation was carried out. Histopatological examination of the lesion revealed it to be Unicystic Ameloblastoma. Hence, the patient was kept under observation.

5<sup>th</sup> appointment: -

After 1 week of surgery suture was removed. Complete healing of soft tissue was seen.



Fig 5: Complete healing after suture removal

## Discussion

UA was first described in 1977 by Robinson and Martinez. It is a rare type of ameloblastoma, accounting for about 6% of ameloblastoma. It is commonly seen in a younger age group, with nearby 50% of the cases occurring in the second decade of life. More than 90% of cases are located in the mandible.<sup>5-7</sup> It is commonly seen in association with impacted tooth ranging from 50 to 80%, with mandibular third molar being most often involved. A patient most commonly complains of swelling with facial asymmetry, pain being an occasional symptom. Mucosal ulceration is rarely seen, but may be caused due to continued growth of the tumor. Small lesions are occasionally diagnosed on routine radiographic examinations or as a consequence of local effects (like tooth mobility, alterations in occlusal and failure of teeth eruption) produced by the tumor.<sup>8</sup> For diagnosing a lesion as UA histologically, a minimum criteria is the demonstration of a single cystic sac lined by odontogenic (ameloblastomatous) epithelium often seen only in focal areas. UA is different from odontogenic cysts



because the former has a higher rate of recurrence than the latter.<sup>9</sup>

Philipsen and Reichart further subgrouped UA under following subgroups:<sup>5</sup>

**Subgroup 1** : Luminal UA

**Subgroup 1.2** : Luminal and intraluminal

**Subgroup 1.2.3** : Luminal, intraluminal and intramural

**Subgroup 1.3** : Luminal and intramural

The UAs subgroups 1 and 1.2 can be treated conservatively by enucleation, whereas subgroups 1.2.3 and 1.3, as for a solid or multicystic ameloblastoma require extensive treatment i.e. radical resection.<sup>5</sup> Following enucleation of the lesion, vigorous curettage of the bone should not be done as it cause implantation of foci of ameloblastoma more deeply into bone. Chemical cauterization with Carnoy's solution is also implied for subgroups 1 and 1.2. A high risk of recurrence is seen in Subgroups 1.2.3 and 1.3, because the cystic wall in these cases has islands of ameloblastoma tumor cells and there may be penetration of lesion into the surrounding cancellous bone there by requiring more aggressive surgical procedures.<sup>10-12</sup> Late recurrence following treatment is commonly seen, the average interval being 7 years. Recurrence is also related to histologic subtypes of UA, with those invading the fibrous wall having a rate of 35.7%, but others only 6.7%.<sup>12</sup> Recurrence rates are also related to the type of initial treatment. Lau *et al*<sup>13</sup> reported recurrence rates of 3.6% for resection, 30.5% for enucleation alone, 16% for enucleation followed by Carnoy's solution application, and 18% by marsupialization followed by enucleation (where the lesion reduced in size).

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