Received: 4 September 2022 | Revised: N.A | Accepted: 29 December 2022

DOI: 10.56501/intjorofacres.v6i2.476

CASE REPORT

Journal Section

# Ameloblastoma in Anterior Mandible : A Case Report

**Himanshu Deepak Dhanodkar, MDS[1*] | Bhupesh Bhayyaji Bagulkar, MDS[2*] | Shradha G. Jaiswal, MDS[2*]**

[1]Post Graduate student, Department of Oral and Maxillofacial Pathology & Microbiology, Sri Aurobindo College of Dentistry, Sri Aurobindo University, Indore

[2]Department of Oral and Maxillofacial Pathology & Microbiology, Sri Aurobindo College of Dentistry, Sri Aurobindo University, Indore

**Correspondence**
Dr. Bhupesh Bhayyaji Bagulkar, Professor, Department of Oral and Maxillofacial Pathology & Microbiology, Sri Aurobindo College of Dentistry, Sri Aurobindo University, Indore
Email: drbhupesh06@gmail.com

**Funding information**
Nil

**Abstract**

Churchill gave the term "Ameloblastoma". According to Robinson it is a "usually unicentric, nonfunctional, intermittent in growth, anatomically benign and clinically persistent tumor". It is a benign odontogenic tumor originating from residual epithelium of the tooth germ, epithelium of odontogenic cysts stratified squamous epithelium and epithelium of the enamel organ. Histopathologically, it occurs in six patterns: plexiform, follicular, acanthomatous, granular cell, basal cell, and desmoplastic type. It is the second most common odontogenic neoplasm. It accounts for 11% of all odontogenic tumors and is characterized by slow growth and local infiltration into the adjacent tissues. About 80 % of ameloblastomas occur in the mandible, it frequently involves molar and mandibular angle (70 %), premolar (20 %), and rarely anterior region (10 %). It is seen in adults in the third to fifth decade of life. Here, we are presenting a case of a 46-year-old male presented with a swelling in right anterior mandible diagnosed with plexiform ameloblastoma.

**KEYWORDS**

Plexiform Ameloblastoma; Odontogenic tumor; Mandible

## 1 | INTRODUCTION

Ameloblastoma is one of common odontogenic tumours.[1] It is characterized as asymptomatic slowly growing tumor with late bony expansion with occasional cortical plate perforation. According to Robinson, ameloblastoma is defined as "Unicentric, non-functional, intermittent in growth, anatomically benign, clinically persistent. Ameloblastomas can be classified either as extraosseous (peripheral) or intraosseous. Clinically, peripheral ameloblastoma looks identical to gingival epulis; however, it is restricted to the gingiva or alveolar mucosa and does not affect the underlying bone.[2] While intraosseous ameloblastomas of the jaws are further classified as unicystic, desmoplastic, mixed cystic and solid types. The latter shows more aggressive behaviour and higher recurrence rate. Histopathological, ameloblastomas can be classified as follicular, plexiform, granular cell and acanthomatous types. Few rare variants are clear cell, desmoplastic, basal cell, papiliferous and keratoameloblastoma.[3] Ameloblastoma can be treated by either enucleation or excised surgically, based ontype, size and extent of the lesion. This is a case of plexiform ameloblastoma affecting anterior mandibular region.

[*] All authors have contributed equally.

## 2 | CLINICAL CASE AND DISCUSSION

A 46-year-old man presented with a two-month-old complaint of swelling (Figure 1A & B) around the lower right front tooth area. The swelling had an insidious beginning, gradually increased in size, and was not painful. There was a history of trauma, which caused the swelling to grow even larger. The patient had teeth extracted (44 & 45). The patient's swelling did not subsides even after the extraction.

The patient was experiencing continuous dull aching pain since 1 month. He had history of tobacco chewing for 10 years. On examination, solitary diffuse and ill defined swelling on lower third of the face on right side was present (Figure 1. A & B) measuring approx 5×3 cm extending from the lower lip to symphysis menti superior-inferiorly and left para-symphysis to right para-symphysis. The overlying skin surface was smooth and stretched. It was hard in consistency and non-tender on palpation.

On intraoral examination, solitary well defined swelling (Figure 1.(C)) on right side extending anterio-posteriorly from distal of 43 to mesial of 46 (missing 44 & 45) and superioinferiorly from right buccal vestibule to right lingual vestibule (crossing the residual alveolar ridge) with smooth surface, stretched overlying mucosa and no secondary changes was found. It was hard, tender with bicortical expansion. FNAC was suggestive of inflammatory lesion while incisional biopsy was suggestive of infected dental cyst. Radiography and standard blood tests were carried out.

Axial view on Cone Beam Computed Tomography demonstrates an area of well-defined hypodensity extending from mesial aspect of radicular portion at apical region of 33 to the mesial aspect of radicular portion of 46 in mesiodistal direction. It also shows irregular shape of lesion, ill- defined periphery with thin corticated borders, scalloped periphery. (Figure 2 (A) and (B)). Expansion of cortical plates along with thinning and perforation at some regions was evident. The haematological findings were not significant. Based on clinical and radiographic findings, provisional diagnosis of central Giant Cell Granuloma was made. Along with this differential diagnosis of ameloblastoma, OKC, Residual cyst and central haemangioma was made.

The histopathological examination of excisional biopsy specimen showed odontogenic epithelium in the form of islands and interconnecting strands in a mature connective tissue stroma. (Figure 3). The odontogenic epithelium shows peripherally placed tall columnar ameloblast like cells with centrally placed cells resembling stellate reticulum. Peripherally arranged tall columnar cells shows hyperchromatic nucleus with reversal of polarity and subnucleolar vacuolization. Areas of cystic degeneration are present in connective tissue stroma. These findings were suggestive of plexiform ameloblastoma. As the lesion was not very extensive, surgical excision was done. The postoperative period was uneventful and function was restored. The 6 months follow up was taken where he showed no further complication or recurrence.

Ameloblastomas are benign odontogenic tumors of epithelial origin, which are aggressive locally and able to reach large size if left untreated. The new version of WHO classification (2017) of ameloblastoma divides it into 4 types; conventional, peripheral, unicystic and metastasizing ameloblastoma. The solid/multicystic term is replaced with conventional ameloblastoma. Ameloblastoma constitutes around 10% of all tumours arising in mandible and maxilla. In mandible, ameloblastoma can variably progress from 1 cm size to 16 cms, leading to facial deformity due to growth of tumor and cortical bone expansion, often with fracture.[4] It frequently presents as an asymptomatic lesion that is discovered by chance on a radiograph. Ameloblastoma can occurs between 3rd to 4th decades irrespective of gender. The relative frequency of mandible to maxilla varies although it has predilection for mandible, especially molar ramus area.[5] In present case, it was mandibular anterior region. Further, there was bony expansion which usually present in late stage, however, it was evident early in reported case.

The most difficult aspect of treating large ameloblastoma is full excision and repair of the defect.[6] Various radiographic techniques such as cone-beam computed tomography (CT), conventional CT, magnetic resonance imaging (MRI), and positron emission tomography (PET) with conventional CT can aid in effective treatment of these tumors.

## 3 | CONCLUSION

Ameloblastoma commonly affects posterior region in mandible. In this case, the lesion affected anterior region of mandible which is generally rare. Histopathological finding was suggestive of ameloblastoma predominantly plexiform type. It is a one of case of plexiform ameloblastoma affecting anterior region.


## Acknowledgements

Nil.


## Conflict of interest

The authors have no conflicts of interest to declare.

## Supporting Information

Nil.

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**How to cite this article:** Dhanodkar H.D., Bagulkar B.B., Jaiswal S.G. Ameloblastoma in Anterior Mandible : A Case Report. Int J Orofac Res 2022;6(2):61-64. https://doi.org/10.56501/intjorofacres.v6i2.476


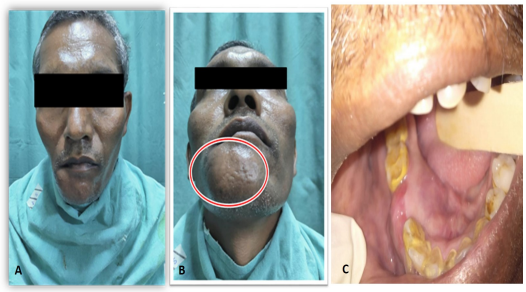


**FIGURE 1** (A) and (B) Extraoral photographs of the patient, revealing a diffuse swelling over the right side of the face. C) Intraoral picture showing a diffuse swelling w.r.t. 44 & 45

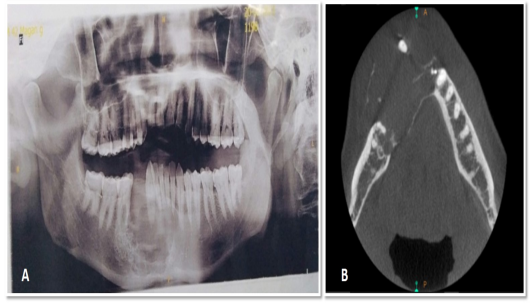


**FIGURE 2** (A) CBCT and (B) OPG showing multilocular radiolucent area anterior mandibular region

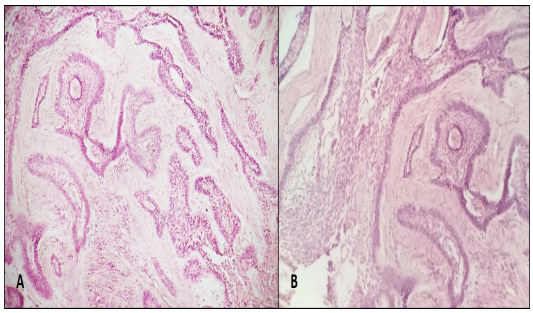


**FIGURE 3** (A) and (B) Histopathology showed interconnecting strands of odontogenic epithelium with scanty central stellate reticulum like cells with connective tissue stroms (10X)