

# Ameloblastoma in Mandibular Anterior Region- A Case Report with Review of Literature

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**Abstract:- Ameloblastoma or adamantinoma is an odontogenic tumour. They are benign, aggressive tumours arising from ameloblasts, which usually occur in posterior mandible. They also occur rarely in maxilla usually located in the premolar region, also can involve the maxillary sinus. Ameloblastoma makes up to 1-3% of all the odontogenic tumors occurring in the jaws. In this article, we present a casereport of ameloblastoma of anterior mandible which is considered as relatively a rare site of occurrence.**

**Keywords:** Ameloblastoma, Mandible, Rare, Anterior.

## I. INTRODUCTION

Ameloblastoma is a slow growing, benign invasive odontogenic tumor.[1] It is the second common odontogenic tumour, the frequency of occurrence comes upto 11% of odontogenic tumors. The lesion is mostly occurs in the third and fourth decades.[2] Exact etiology of ameloblastoma remains unclear. Ameloblastoma may arise from: Cell rest of enamel organ either remnant of dental lamina or Hertwigsepithelial sheath; cystic lining epithelium; and disturbances of developing enamel organ.[3] The tumour frequently occurs in the mandible (80%), followed by maxilla (16%) .There is a soft tissue counterpart called peripheral ameloblastoma accounting for 4%.[4] .Molar and mandibular angle (70%) region, premolar (20%), and anterior region (10%) are the sites of involvement in mandible.[4] The tumor is usually asymptomatic, present with swelling causing bony deformity. Wide surgical excision is the treatment of choice. We report a case of ameloblastoma occurring in anterior mandible .

### ➤ Case history:

A male patient aged 40 years presented with a chief complaint of swelling on left lower front teeth region for past 4 months(FIG1). History reveals swelling started as a very small one and it gradually progressed in size and reached the present size. Patient had a consultation with a dentist for the same problem three months back. He was prescribed with medication and the swelling did not subside. His medical history was non contributory. On extraoral examination, asymmetry of face is seen due to presence of a diffuse swelling is present on the left lower front mandibular region which measures 3 x 3 cm in dimension approximately extending anteriorly from the symphysis to the body of mandible along the left side body of mandible till the angle of mandible, superiorly to below the line joining the occlusal plane and inferiorly to below the inferior border of the mandible with smooth surface(FIG 2). On palpation, it is firm and nontender compressible at the centre. On intra oral examination, mobility noted in 31,32,33,34,41,42 with a swelling in the floor of the mouth(FIG 3). Obliteration of labial sulcus in mandible . On inspection, the swelling was measuring 3x3 cm ,oval in shape, extending from mesial surface of 34 to distal surface of 42 having a smooth surface. Labially swelling extends from mesial surface of 43 to mesial surface of 34 causing obliteration of the labial vestibule with no secondary changes. On palpation,. Swelling is firm, fixed non-tender, and compressible at centre causing mobility of 31,32,33,34,41,42 the condition is provisionally diagnosed as Benign odontogenic tumour in relation to 31,32,33,41,42 region

## II. DIFFERENTIAL DIAGNOSIS

Ameloblastoma

Odontogenic keratocyst

OCCLUSAL RADIOGRAPH (FIG 4)

Mandibular occlusal radiography showed presence of radiolucency with fine trabecular pattern showing lingual expansion extending from 33 to 43 region with presence of thin radiopaque septa in the radiolucent area, features suggestive of multilocular ameloblastoma of mandible. Orthopantomograph (OPG)(FIG5) Presence of 3 x 4 cm well defined radiolucency which is multilocular in the mandible extending from the mesial surface of root of 43 till the roots of 33. Presence of thinning of cortical borders and resorption of roots of 34 with displacement of 33,34 features suggestive of ameloblastoma of left anterior region of mandible. The given H & E (FIG 6) stained section showed Odontogenic epithelium which had arrangement in the form of follicles with peripheral columnar cells also, central stellate reticulum like cells. Some follicles show acanthomatous changes and some granular changes with extensive fibrosis. Histopathologic diagnosis of Follicular ameloblastoma was given. Considering the clinical presentation of the swelling, radiographic features and histopathologic features a final diagnosis of Ameloblastoma in relation to 31,32,33,34,41,42 was given.

## III. DISCUSSION

Ameloblastomas belong to the epithelial odontogenic tumors. They are usually benign in nature, but invade locally and rarely cause metastasis. It was first described in 1827 by Cusack. French physician Louis-Charles Malassez named it as an adamantinoma in 1885. Ivey and Churchill renamed as ameloblastoma in 1930. [5]

Ameloblastoma are seen in wide range of age but are usually seen in 4<sup>th</sup> and 5<sup>th</sup> decades of life with no sex predilection. [6]

Etiology of ameloblastoma is unknown. In most cases, ameloblastoma are usually asymptomatic. But after attaining considerable size, they present with jaw expansion. They may cause displacement of teeth or resorption of roots of involved region. But our patient had swelling with bony deformity in mandibular anterior region and gradual displacement of lower anteriors.

Radiologically, ameloblastoma have multilocular radiolucency with well-defined sclerotic and scalloping margins, causing expansion of the cortical plate. The affected teeth roots may be displaced or show resorption. [7] Approximately, 80% are seen affecting the mandible. [8,9] Maxilla being involving rarely, occurring in the posterior maxilla in 98% of cases with anterior region in 2%. The molar area is the most frequently affected in Japanese [10,11] and Whites [12]. In anterior region of the jaws are the common site of occurrence in Black people [12]

These are histologically classified into 6 types namely follicular, granular, desmoplastic, plexiform, basal cell, and acanthomatous variety. [13] Final Diagnosis is usually confirmed after histopathological examination, which reveals palisaded basal cell layer with stellate reticulum. Differential diagnosis of ameloblastomas includes calcifying epithelial odontogenic tumor (CEOT), ameloblastic fibroma, odontogenic myxoma, central giant cell granuloma.

Different treatment modalities are surgical excision, curettage, enucleation, radiotherapy. Wide surgical excision with safe margins is the routine treatment method. Surgical excision is treatment of choice and involves removal of tumor with negative margin of 15-20 mm. [14]

Ameloblastomas are well-known for its recurrence. Lau *et al.*, reported that rate of recurrence were 3.6% for wide resection and 16% for enucleation followed by using Carnoy's solution, 30.5% for enucleation, [14] Several factors influence in rate of recurrence which includes clinicopathological variant of tumor, anatomic site, safe margins during surgery, and histological variant. There are three variant of ameloblastoma designated as solid or multicystic or unicystic, also peripheral. The solid variant has greater chance for local infiltration with recurrence. [2] The cortical bone which is denser in mandible prevents the further spreading of the tumor. [15] Inadequate surgical margins are frequent cause of recurrence. Treatment of ameloblastoma by curettage may leave small tumor island in bone, which can also cause recurrence. [16]

Role of radiotherapy, as treatment modality in case ameloblastoma, is usually administered in surgically inaccessible areas. [17] Role of chemotherapy is not defined, clearly however, few case reports show mild response with Cisplatin. [18]

Malignant transformations of ameloblastoma are rarely seen, (less than 1%). Malignant ameloblastoma can also arise *de novo* or transformation of pre-existing ameloblastoma. The common sites to which they spread are lung, lymph nodes, and rarely brain. [19]

#### IV. CONCLUSION

Ameloblastomas, though usually benign, sometimes turn into malignant tumours also. Due to increased rate of recurrence of ameloblastoma, meticulous and follow up for long period is usually recommended. Regular follow up of the patient should be done, irrespective of the treatment done.

➤ *Clinical photographs of the patient*



Fig 1:- showing the face



Fig 2:- showing the swelling with facial asymmetry

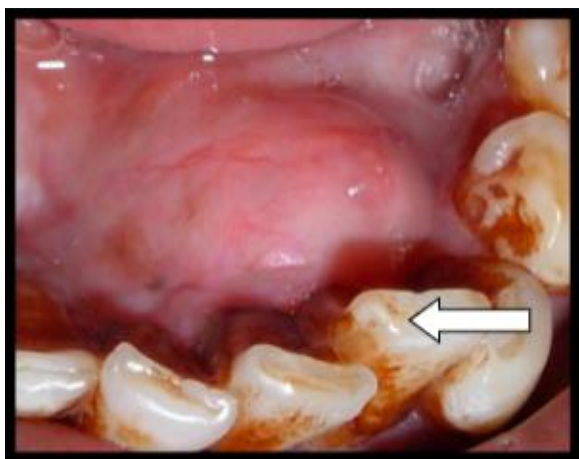


Fig 3:- showing the intraoral swelling

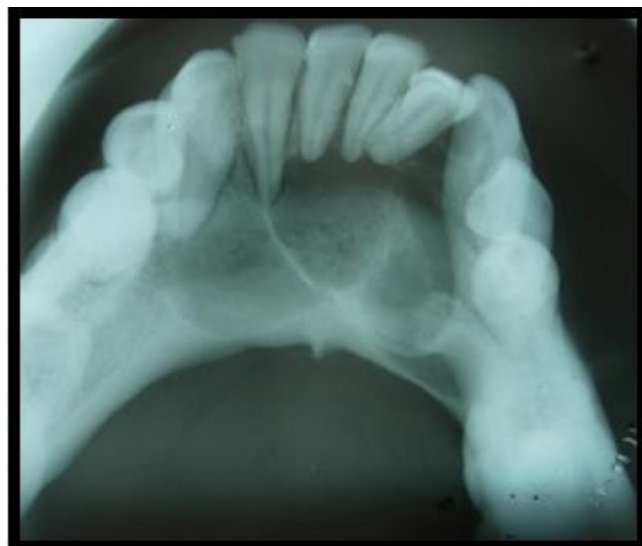


Fig 4:- occlusal radiograph showing multilocular radiolucency in anterior region

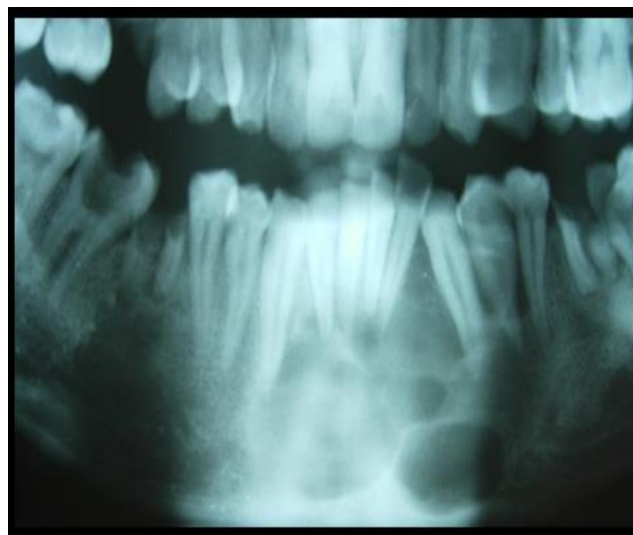


Fig 5:- OPG showing Tumour with multilocular radiolucency in anterior region

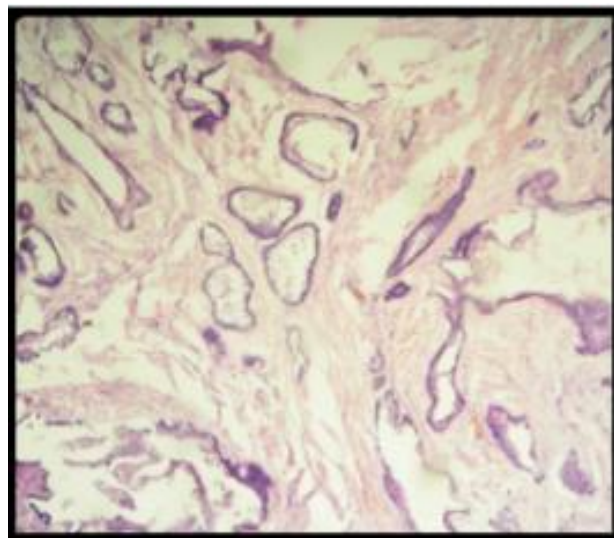


Fig 6:- histopathologic section

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