

Ameloblastoma: A case report

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ABSTRACT

The purpose of this article is to describe about ameloblastoma giving emphasis on its frequency of occurrence, incidence according to age and sex, location, duration of symptoms, clinical features, histology and surgical treatment. Molar-ramus area is most common site of occurrence. Plexiform histologic subtype is more common than follicular subtype. Treatment should be planned logically keeping in mind age and type of tumor. Regular follow up should be made by visit of patient and radiographic examination

Key words: Ameloblastoma, Odontogenic tumor, Unicystic ameloblastoma, multicystic ameloblastoma.

INTRODUCTION

Ameloblastoma, 2nd most common Odontogenic tumor, ^{1, 2} is one of the most controversial tumors of the jaws³. It accounts 1% of all the tumors of the jaws and 5th most common of all neoplasm arising from embryonic Odontogenic epithelium.^{1,4,5} Still it continues to be subject of great debate, controversies and interest among the oral and maxillofacial surgeon around the world, due to its slow growing nature, persistent growth, local infiltration into adjacent tissues, number of surgical treatments, various histological types and subtypes, and high recurrence rate with potential of malignant transformation.

There are three clinical types of ameloblastoma, solid or multi cystic, unicystic & peripheral and each with a different biological behavior. Unicystic type shows less aggressive behavior than multi cystic and usually found in young adolescents. Peripheral type is rare entity and solely found in soft tissues covering the dentulous part of jaws.⁶

CASE REPORT

A 25 year old man came to the centre with swelling over right side of face since last two years (Fig. 2). Intraoral examination shows obliteration of labial and lingual vestibular obliteration (Fig. 3, 4). All routine investigation with radiographic examination (OPG) was done (Figure1) which came out to be normal. Incisional biopsy was planned under local anesthesia and sent for histopathological examination. Histological Report (Fig. 8) came out to be of ameloblastoma. Surgical curettage followed by iodofrom dressing was done. Healing was satisfactory.



Fig. 1:



Fig. 2:



Fig. 3:

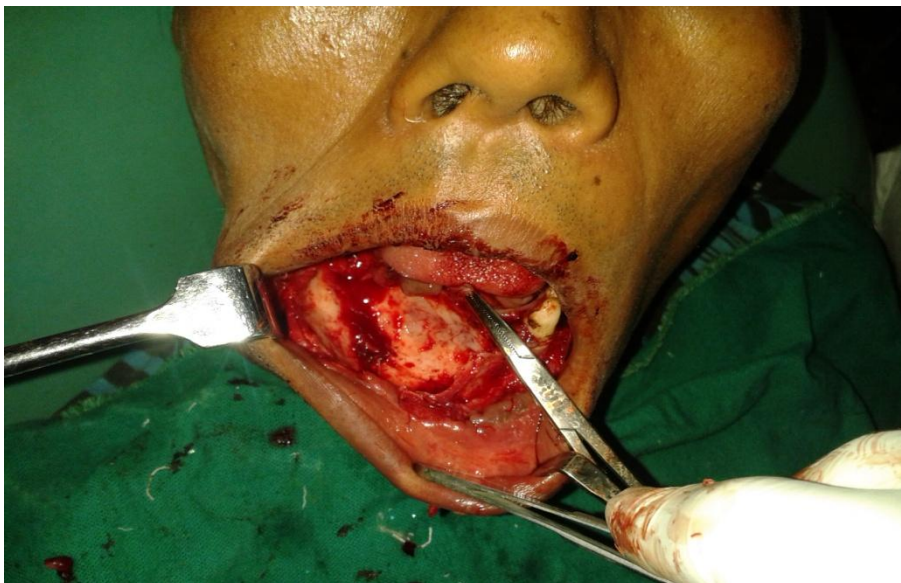


Fig. 4

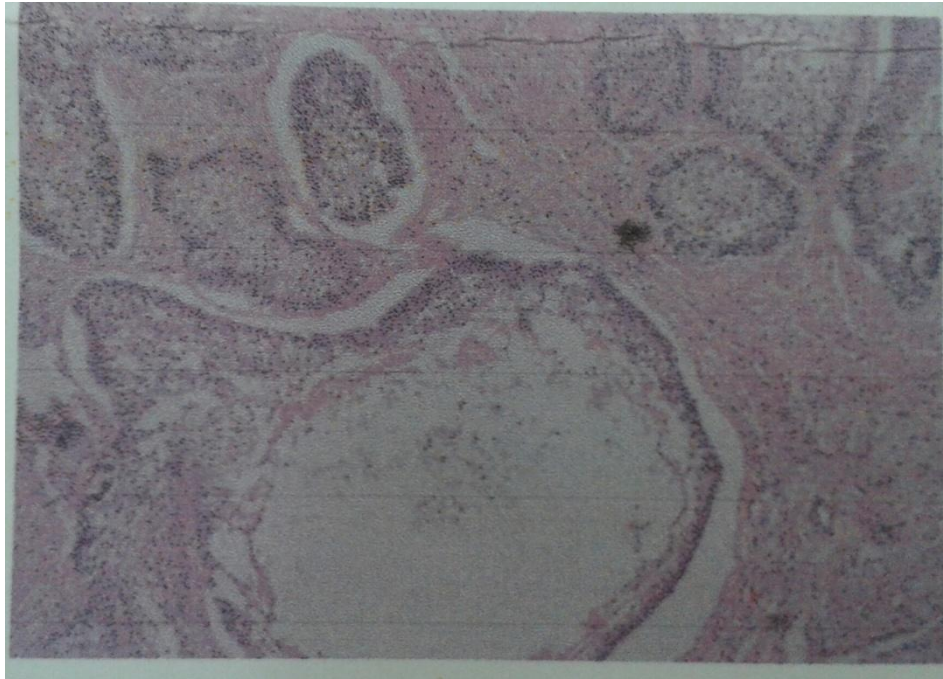


Fig. 8:

DISCUSSION

Ameloblastoma is a gradually expanding locally invasive intraosseous neoplasm, which causes extensive destruction of bone.⁷ According to the classification of Pindberg and Clausen as modified by Gorlin and Coworkers,⁸ it is the most common of all the odontogenic tumors. It comprises approximately 1% of the tumors in the jaws and 80% of which occur in mandible and 70% in molar ramus region.⁹ Maxillary ameloblastoma are rarer and much less extensively reported.

A review of literature indicates that it may occur at any age. Masson reported it in a new born infant.¹⁰ The result accumulated from this study indicates that the greatest distribution occurred in patients from 20-30 years of age with mean age of diagnosis 31.3 years. Thoma and Goldman stated that the ameloblastoma is most common in patients about 30 years of age¹¹ while Shafer and others stated that nearly half of the ameloblastoma occur between the ages of 30-40 years.⁴

Lewis stated that the average age of patients in 70 cases was 33 years.¹² Marx reported that the peak incidence is between 20-35 years of age.¹³ There is slight predilection for male patients according to study of Potdar in Indians, who recorded sex ratio in favor of male patients.¹⁴

In all sexes, the mandible is far more frequently involved than maxilla. Robinson¹⁵ recorded an incidence of 83.7% in the mandible while small and Waldron,¹⁶ Akinosis and Williams¹⁷ noted an incidence of 88% respectively. Usually ameloblastoma found in mandible with posterior-ramus region followed premolar-molar area which is consistent with study of Shafer⁴, Neville¹⁸ and Kesseler.

There are many different data regarding the duration of the ameloblastoma. The small and Waldron studied one thousand cases and reported that average duration of this tumor was 5.8 years²⁰ while Gardner reported 6.4 years of duration.²¹

The radiographic appearance of the lesions included multilocular lesion with honey comb (Fig.5) or soap bubble appearance (Fig. 6) and unilocular types (Fig. 7) with or without an unerupted tooth. Unilocular types may resemble benign cystic lesions like dentigerous cyst, odontogenic keratocyst. The multilocular radiolucency is not pathognomonic too as a similar appearance may be found in many tumors like giant cell lesion, odontogenic myxoma, non-neoplastic cysts, fibrous dysplasia, aneurismal bone cyst. So, it is difficult to differentiate between the two types on the basis of radiographic finding. Therefore, histopathological examination is must and no cases should be diagnosed solely on the basis of radiographic findings.

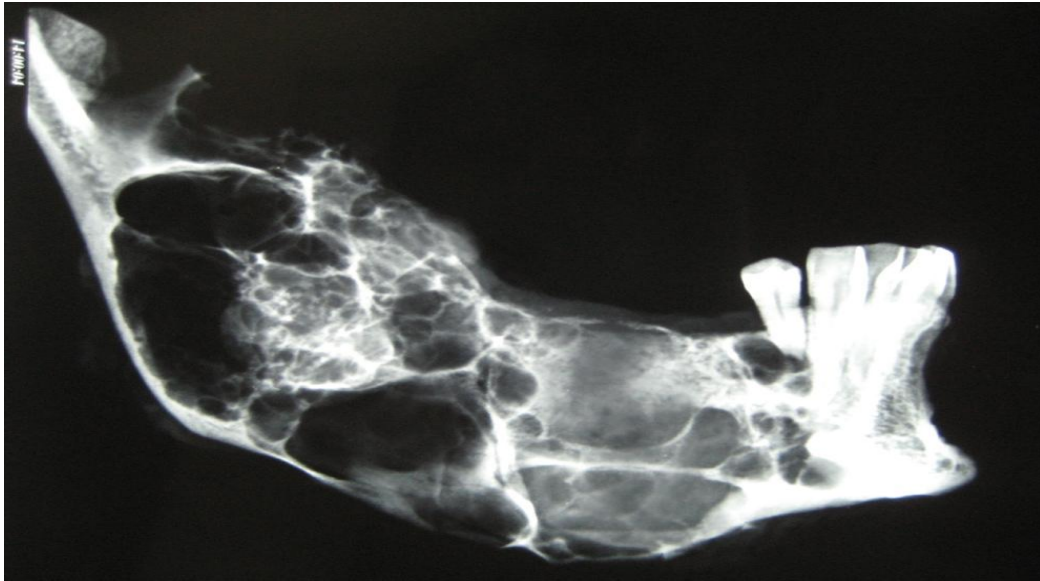


Fig. 5:



Fig. 6:



Fig. 7:

In literature follicular subtype is more commonly encountered.^{16, 22, 23, 24,25} Plexiform sub type frequently found in younger patients. Ueno ET al²⁶ also observed the same finding in Japanese patients. He found that it was more frequent in younger patients and unicystic type ameloblastoma. According to him, follicular subtype is more frequently encountered in older patients and multicystic Ameloblastoma.

The disfigurement of face due to ameloblastoma though often tolerated for many years but becomes socially unacceptable and patient demands treatment for both functional as well as esthetic reasons. Once the diagnosis is established, it should be treated as soon as possible.

Tumor found in our study is either multicystic and unicystic type. Unicystic type is commonly found in young adolescent. It also shows less aggressive behaviors and hence had better prognosis with significantly low recurrence rate^{27, 28, 29, and 30} while solid type is more locally aggressive with high recurrence rate. So treatment of both these type should be logically planned keeping in mind the age of patient and type of tumor. So, in case of unicystic type, as age of patient is usually less than 20 years, initial conservative treatment in the form of enucleation with peripheral ostectomy or marsupialisation (Fig. 1), has an excellent chance of success. Nevertheless in this type, radical surgery if performed as first line of treatment, will affect both function and esthetic of an actively growing young patient. Moreover, recurrence rate is low in this type and if occur, usually after 5 year which can be managed without severe morbidity. In this patient, we have performed enucleation with peripheral ostectomy as treatment modalities of choice and found new bone formation in cystic area (Fig. 1).

Multicystic or solid type of ameloblastoma show very high aggressive behavior with local invasion into adjacent tissues and high recurrence rate. So resection (segmental or enbloc) with safe resection margin is treatment of choice especially who fails first line of treatment like surgical curettage & enucleation (Fig. 2). In our patients we have taken 1.0–1.5 cm safe resection margin in all solid type ameloblastoma and intraoperative frozen sectioning to confirm clear margins. Secondary reconstruction was done usually after 6 months of operation with iliac crest bone graft.

No recurrence has been reported till date with maximum follow up time of 2.5 years. But long term and even lifelong follows up after resection is mandatory because reoccurrence have been reported even after 25-30 years.^{31, 32}

CONCLUSION

Ameloblastoma is fairly common tumor in this region. In the 21 cases of ameloblastoma investigated, the mean age of patient was 31.3 years with male preponderance. Most patients affected in the 2nd and 3rd decade of life and molar ramus area of the mandible was most favored site. The mean value for the duration of symptoms in ameloblastoma was 1.3 years. Oral ulceration and teeth displacement clinically and root resorption and embedded third molar on x-ray were common findings. Plexiform histological subtype is more commonly encountered than follicular in this region. Treatment must be planned logically on the basis of age of patient, type and subtype of tumor so that minimum morbidity occurs to the patient. To prevent recurrence, resection with safe margin of 1.0 – 1.5 cm is must with regular follow up.

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