Plexiform Ameloblastoma of Right Mandible - A Case Report

Dr. Kusum Vinti C[1], Dr. Nimmi Singh[2], Dr. Archana Sudheer[3], Dr. Amit Kumar Singh[4]

PG Student[1], Reader[2,4], Professor[3], Department of Oral Medicine & Radiology, Buddha Institute of Dental Science & Hospital, Patna

Abstract

Ameloblastoma is a benign locally invasive epithelial odontogenic tumour comprising 1% of all tumours and cysts arising in the jaws. It is commonly found in the third and fourth decade in the molar ramus region of the mandible. Among all types of ameloblastoma, multicystic ameloblastoma is believed to be locally aggressive lesion that has the tendency for recurrence. In this report we present a large multicystic ameloblastoma in the right body-ramus region of the mandible in a 30-year-old woman. This large lesion was diagnosed with the help of CT and was successfully managed by hemimandibulectomy with simultaneous reconstruction.

Keywords: Odontogenic tumors,multicystic,hemimandibulectomy,reconstruction.

Introduction

Ameloblastoma is a rare, benign, slow-growing but locally invasive neoplasm of odontogenic origin involving the mandible (80 %) and maxilla; conservative treatment results in a high recurrence rate. The neoplasm was first described by Cusack in 1827 . Etymologically, the name derives from the old French word "amel," which means enamel, and the Greek word "blastos," meaning germ or bud. Over time, this tumor has been referred to by many different names including "cystosarcoma," "adamantine epithelioma," "adamantinoma," and finally "ameloblastoma"[1]

Ameloblastoma is reported to constitute about 1-3%of tumours and cysts of the jaws.1-3 The tumour is by far more common in the mandible than in the maxilla and shows predilection for various parts of the mandible in different racial groups. The relative frequency of the mandible to maxilla is reported asvarying from 80–20% to 99–1%.It often presents as a slow growing, painless swelling, causing expansion of the cortical bone, perforation of the lingual and buccal plates and infiltration of soft tissue. There is often delay in the diagnosis because of its slow-growing nature. Ameloblastoma of the jaws is the most commonly encountered odontogenic tumour in Africa and Asia, but the second mostcommon odontogenic tumour in North and South America[2]

Case presentation

A 30-year-old woman reported with a swelling (figure 1)on the right side of the face since 2 years and pain while chewing food since 3 months. The swelling was insidious in onset and gradually increased to the present size. There was no history of trauma or toothache or decrease in the size of the swelling or any discharge from the swelling. The patient was experiencing pain while chewing hard food. On examination, there was a solitary diffuse swelling over the right middle and lower third of the face (Figure 2) measuring about 5×8 cm extending superio inferiorly from the pretragal region to the lower border of the mandibleand mediolaterally 1 cm from the left cornerof the mouth to the left lateral border of the mandible. The surface was smooth and the skin overlying the swelling was stretched and was of normal colour with no secondary changes to be found. present on lower righ posterior region extending anteroposteriorly from distal of 45 to 48 region and buccolingually it extends from bucca. few squamous epithelial cells are also seen.l vestibular area to 1.5 cm lingually obliterating buccal vestibule measuring approx. 4.3 cm in size .swelling has ill defined margin and lobulated surface without any pulsation and Secondary changes.

Secondary surface changes,There were clinically missing teeth(46 ,47 and 48) Considering the clinical findings, a tentative diagnosis of benign tumour of the right side of lower jaw was made. Ameloblastoma was thought as first in the list of differential diagnosis as it is the most commonly occurring tumour in the mandibular molar ramus region in this age group. Second Odontogenic myxoma was considered,which has similar site of occurrence. An incisional biopsy was made and the specimen was subjected to histopathological examination.

Investigations

The patient was subjected to radiographic and routine haematological examination .(Figure 3)

CT Report

The ct of the jaw (Figure 4) revealed a very large Well-defined radiolucent expansile lesion in the right body and ramus of the mandible with multilocular appearance causing expansion of the body and ramus.

Histopathology

It reveals proliferation of neoplastic odontogenic epithelial cells in form of anastomosing strands and cords .Few squamous epithelial cells are also seen .(Figure 5)

Radiological Differential Diagnosis:

Odontogenic keratocyst, odontogenic myxoma, central giant cell granuloma and Brown's tumotur of hyperparathyroidism

Treatment

As the lesion was very extensive, a hemimandibulectomy was performed along with reconstruction using iliac crest bone.(Figure 6&7)

Outcome & Follow-up

The patient's aesthetics and function was restored. The patient was followed up for 6 months with no evidence of complication or recurrence Currently the patient is under biannual follow-up.(Figure 8&9)

Discussion

Ameloblastoma is the commonest form of odontogenic tumor after odontoma and most of the cases originate in the molar-ramus area. Back in 1934, Churchill suggested the term 'Ameloblastoma'. It is reported to affect both the sexes in equal ratio and largely in the 3rd, 4th and 5th decade. Till date almost 15 different varieties of this tumor have been recorded. The most common ones are plexiform, follicular, desmoplatic, granular, unicystic, basal cell and the peripheral variant of it occurs minimally. Some of the other variants are clear cell, acanthomatous, mucous cell differentiation, keratomelo-blastoma and heman giomatous.[3]

Radiologically, the lesions are expansile, with thinning of the cortex in the buccal–lingual plane. The lesions are classically multilocular cystic with a “soap bubble” or “honeycomb” appearance.[4]

Ameloblastoma often persists as a slow growing, painless swelling, causing expansion of the cortical bones, perforation of the lingual and/or buccal plates and infiltration of soft tissues, occurring more frequently in the posterior mandible. The lesions are often asymptomatic. In many patients, the lesion typically appears as a circumscribed radiolucency that surrounds the crown of an unerupted mandibular third molar, radiographically resembling a dentigerous cyst. [5]Despite the increasing number of studies that have been carried out

to-date, this tumour still has many controversial issues such as its aetiology, clinical behaviour and treatment modality.

Conclusion

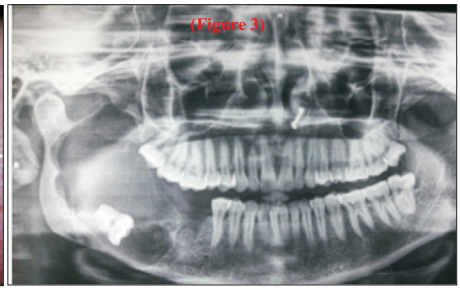
Ameloblastoma is a rare tumor of the mandible and maxilla, with a well-documented propensity for loco-regional invasion and risk of recurrence. Therapeutically, simple enucleation has no role in the management of ameloblastoma beyond perhaps the unicystic subtype. Few options exist for treatment beyond wide local excision, which can be associated with significant patient morbidity.Additionally, though radiotherapy has been attempted in recurrent or inoperable cases, studies show its efficacy to be unclear.

References

1. Ameloblastoma: a clinical review and trends in management. Andrew C. McClary2 Robert B. West2 Ashley C. McClary4
2. Ameloblastomas and their management: a review vohra F a, hussain m, mudassir m sUnicystic
3. Ameloblastoma- A Case Report Dr.Shashikala.R1 Dr.Saurabh Gupta
4. Clinical and Radiologic Behaviour of Ameloblastoma in 4 Cases Sinem Gümgüm,
5. Multilocular ameloblastoma of mandible-a case report dr santosh kumar subudh
6. Ameloblastoma: a still controversial tumourrosnah bte zai

Figure 1 Extraoral photograph of the patient, revealing a diffuse swelling over the right side of the face.

(Figure 2 Intraoral photograph revealing a diffuse swelling from tooth 45 to retromolar region.)



(Figure 3)

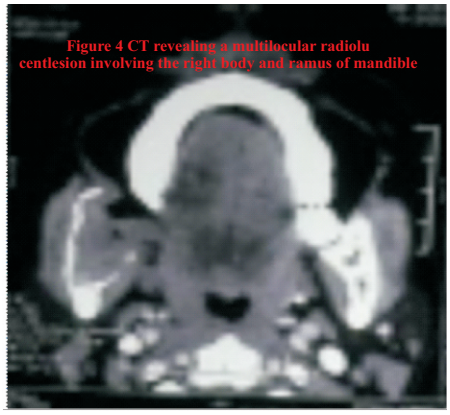
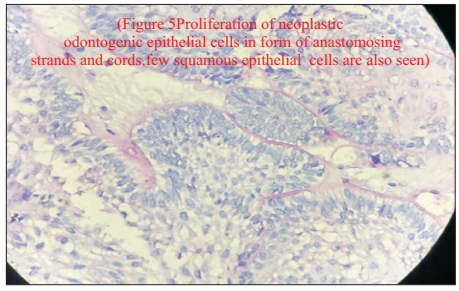
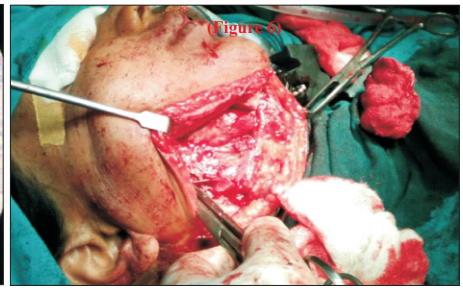


Figure 4 CT revealing a multilocular radiolu centlesion involving the right body and ramus of mandible

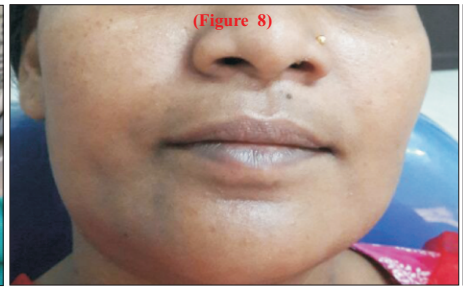


(Figure 5Proliferation of neoplastic odontogenic epithelial cells in form of anastomosing strands and cords.few squamous epithelial cells are also seen)

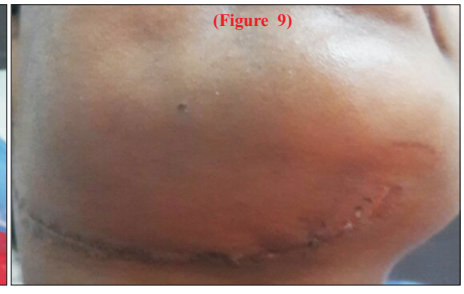


(Figure 6)

(Figure 7)



(Figure 8)



(Figure 9)