AMELOBLASTOMA – AN UNCOMMON CLINICAL PRESENTATION

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ABSTRACT

Ameloblastoma is a true neoplasm of odontogenic epithelial tissue origin. Robinson described it as a tumor that is usually unicentric, nonfunctional, intermittent in growth, anatomically benign and clinically persistent1. Ameloblastoma is common in the age group of 3rd to 7th decades of life and are rare in children. Here we present a case of a huge ameloblastoma on the right side of the face of a 15yr old boy, who came with a chief complaint of an ulceroproliferetive growth in the lower right posterior region.

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Introduction

Ameloblastoma comes under the category of benign odontogenic tumors. Tumor is often asymptomatic and is uncommon in the age group of 10-19yrs and rare below 10yrs, most commonly affecting the mandibular molar and ascending ramus area2,3. This particular case deals with an ulceroproliferetive growth on the lower right posterior region in a 15 yr old boy.

Case report

A 15yr old male patient came to our OPD with a chief complaint of a growth in the lower right back region associated with swelling on the right side of the lower jaw since one month. Patient noticed a small growth on the gums surrounding the last tooth in the same region one year back which was painless and very slow growing. A month prior to visiting the OPD, the patient had consulted a local dentist where he removed the growing mass along with the associated tooth. After the extraction of the tooth the socket remained unhealed and a growth was again noticed by the patient, which started as small growth and increased in size to attain the present size.

Figure 1.

Extra oral examination revealed a diffuse swelling in the right side of the face extending from the corner of the month till the angle of the mandible anteroposteriorly and from the ala-tragal line till the lower border of the mandible, supero-inferiorly, and was measuring about 4×3cm in size approximately. The swelling was non-tender, firm to hard in consistency with egg shell crackling felt in the ramus area suggestive of thinning of buccal cortical plate in that region.

Figure 2.

Intra oral examination showed an ulcero proliferative growth in the 47 region. The growth was extending from the 45 region till the 48 region, the surface was having a pebbly and erythematous appearance. The centre of the lesion was showing sloughing, measures about 3×1,5cm in size.

Figure 3.

On palpation, expansion of both buccal and lingual cortical plates from the distal part of the 44 region was observed while the posterior extension was not palpable. The borders of the soft tissue growth was indurated.

Considering the age of the patient, history, and clinical presentation, a provisional diagnosis of Ameloblastic fibroma of the right mandible with a differential diagnosis of central giant cell gramuloma, OKC, ameloblastoma, dentigerous cyst, carcinoma and low grade fibrosarcoma was given.

As a part of investigation FNAC was done and was unyielding. Then patient was subjected for an IOPAR in the 46, 47 region. IOPAR showed a large radiolucent lesion with only the mesial border seen in the radiograph due to the large size of the lesion. Resorption of the mesial root of the 46 was seen.

Figure 4.

Then OPG was taken and showed a large radiolucent lesion extending from the 46 region involving the angle of the mandible, and ramus almost reaching the neck of the condyle. The posterior border showed scalloping. The lesion was completely radiolucent and well defined in all the areas except the superior border, where it was showing ill defined areas suggestive of perforation of the alveolar ridge.

Figure 5

A mandibular cross sectional occlusal radiograph was taken and it showed expansion of cortical plates.

Figure 6

Then the patient was subjected for CT scan. CT showed that the lesion was measuring about 7×2cm in size, perforation of the lingual cortical plate and some perforated areas in the buccal cortical plate also.

Figure. 7,8

An incisional biopsy was done and specimen was sent for histopathological examination and the report came as plexiform ameloblastoma.

Figure. 9,10,11,12

Considering the age of the patient, a conservative management was planned. On that basis, enucleation, curettage and chemical cautery using Carnoy's solution was done.

Regular follow up was done. OPG was taken in every two months to rule out recurrence of the lesion. After 6 months again there was a small growth in the same region and OPG taken at that time showed some loculations in that area suggestive of recurrence.

An enbloc resection of the mandible was done and the specimen was sent for histopathological examination and the report came as plexiform ameloblastoma.

DISCUSSION

Ameloblastoma are true neoplasm of odontogenic epithelial origin, which are slow growing and locally invasive that runs a benign course in most cases. The term 'Ameloblastoma' was coined by 'Churchill' in 1934. They originate from the cell rests of - enamel organ, dental lamina remnants, Hertwigs epithelial root sheath, rests of Malassez, epithelium of Odontogenic cysts (Dentigerous cyst), disturbances in developing enamel organ, heterotropic epithelium in other parts of the body, especially the pituitary gland, and basal cells of oral epithelium3.

Ameloblastoma can be classified clinically into

1. convensional solid or multicystic -- about 86% of all cases.
2. unicystic – about 13% of all cases.
3. Peripheral (extra osseous) about 1% of all cases2,3,4

Rare in children below 10yrs of age, uncommon in 10-19yrs group, common in 30-70 years and no gender predilection. More frequent in mandible than maxilla 3:1, 85% of convensional ameloblastomas occur in the mandible, most often in the molar ascending ramus area, 15% of ameloblastomas occur in the maxilla – usually in the posterior regions. They usually are asymptomatic and smaller lesions are detected only during a radiographic examination3,4.

A painless swelling or expansion of the jaw is the usual clinical presentation which sometimes causing facial asymmetry. Usually slow growing and non tender, pain and parasthesia are uncommon even with large tumors. If untreated the lesion may grow slowly to massive proportions. Buccal and lingual cortical expansion is frequently present with egg shell crackling feel in the cortical plates due to thinning. In most cases an unerupted tooth, most often a mandibular 3rd molar is associated3,4,5.

Radiologically usually well defined with corticated borders. Small lesions border and shape may be indistinguishable from a cyst. The internal structure usually is totally radiolucent to mixed with presence of bony septa creating internal compartments. Septa are curved in shape giving a honey comb appearance (numerous small compartments or loculations) and larger compartments giving soap bubble appearance. Cause extensive root resorption and it has a knife edge pattern because all of the adjacent roots are cut off along a single linear plane, corresponding to the margin of the lesion. When roots are not resorbed, they tend to extend into the lesion rather than straddle it. Tooth displacement is common. Thinning of the adjascent cortical plates with expansion and perforation of bone into the soft tissues also can be seen in larger lesions5,6,7,8.

Histopathologically they can be classified into follicular, plexiform, acanthomatous, granular cell, basal cell, desmoplastic, kerato and hemangiomatous ameloblastomas3,9,10.

Treatment decisions for ameloblastoma are based on the individual patient situation and the best judgement of the surgeon 4,11. Curettage and enucleation with or without cautery is the best surgical approach. A safe margin of uninvolved bone is 2 cm for solid and multicystic lesions and 1-1.5 cm for unicystic and peripheral lesions. Recurrence is more with this technique. Other treatment options include, excision of the lesion ,peripheral ostectomy, enbloc resection without continuity defect, and segmental resection with continuity defect.

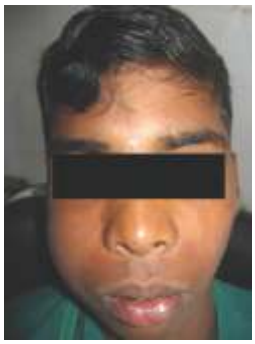

Fig 1. Patient profile

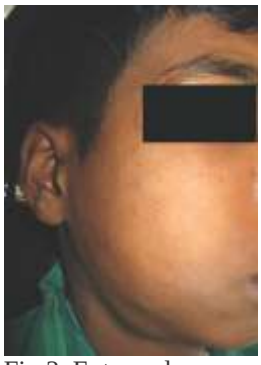

Fig 2. Extraoral examination

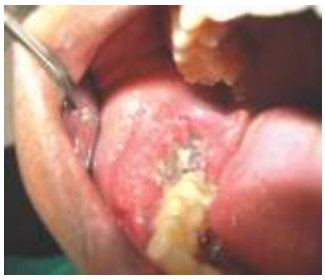

Fig 3 Intraoral examination

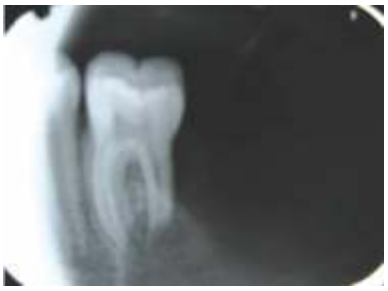

Fig 4. IOPA

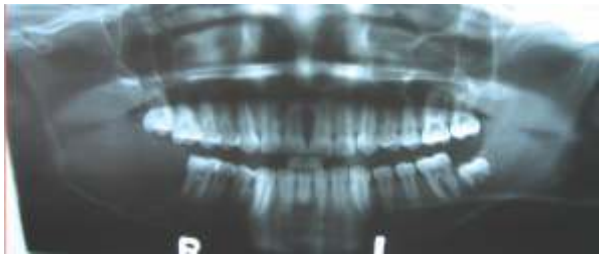

Fig 5. OPG

Fig 6. Occlusal radiograph

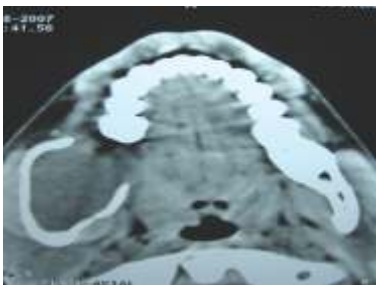

Fig 7. CT imaging

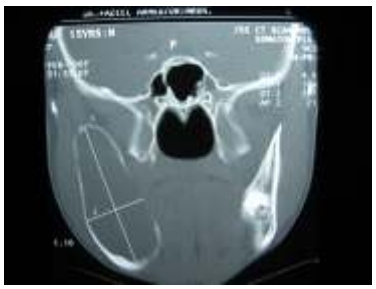

Fig 8. CT imaging

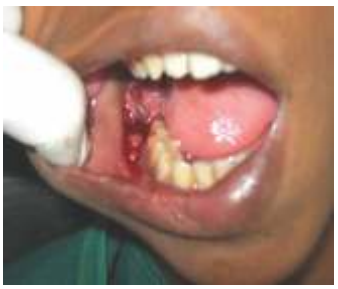

Fig 9. Biopsy

Fig 10. Biopsy

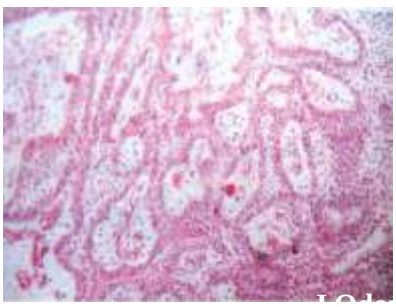

Fig 11. Histopathology

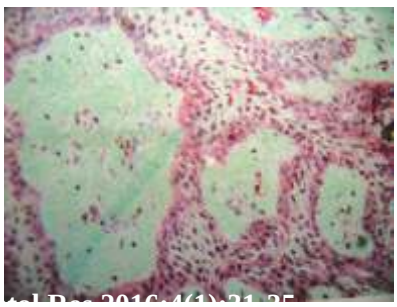

Fig 12. Histopathology

For maxillary lesions : Group I tumors confined to maxilla with out involving orbital floor - Partial maxillectomy, Group II tumor involving orbital floor not the periorbital tissue- total maxillectomy ,Group III tumor involving orbital contents -total maxillectomy with orbital excentration, Group IV tumor involving skull base- total maxillectomy with orbital excentration and anterior skull base resection. Most importantly follow up should be done for many years12.

Treatment of conventional ameloblastoma by curettage alone is associated with a markedly increased incidence of recurrence when compared with the recurrence rate after block resection. Some studies have reported 90-100% recurrence rate for ameloblastoma that are treated only by curettage. But most studies report lower rates ranging from 50-90%. Peripheral ostectomy using a bone bur was reported to provide an additional margin of safety and in some studies no recurrences where reported after up to 15yrs of follow up. Block resection, which is often the treatment of choice, the surgical margins generally are established at a distance of at least 1cm from the clinical or radiographic boundary of the neoplasm. Even with this 1cm margin of error, a significant recurrence rate is reported. The recurrence rate for unicystic ameloblastoma is reported to range from 10-25% when treated only by enucleation or curettage4.

Conclusion

Ameloblastoma is the most significant odontogenic neoplasm of concern for dentist. It shows a wide variety of clinical and radiographic presentations and can be encountered in any area of the jaws. The growth pattern and the specific jaw in which the tumor is found are the most important factors when considering treatment options, followed by prolonged observation of the lesion for recurrences.

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