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Ameloblastic fibro-odontoma A 24 year post operative follow up - A case report

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Abstract

Ameloblastic fibro – odontoma is a rare tumour of benign etiology consisting of odontogenic epithelium and mesenchyme having the histopathological characteristics of that of ameloblastic fibroma that contains both enamel and dentin. It is commonly known to affect children of younger age group with a no gender predisposition. It is believed to have a continuous maturation process. Radiographical examination shows a solitary well circumscribed radio-opaque mass or multiple small radio-opaque mass in the posterior aspect of the mandible or maxilla. Treatment is enucleation of the tumour. Here is a reporting a case of a follow up of a patient of who underwent enucleation 24 years ago for Ameloblastic fibro – odontoma with review.

Keywords: Ameloblastic fibro – odontoma, Enucleation, Odontoma, Immature odontoma, Mixed odontogenic tumour

Introduction

Ameloblastic fibro – odontoma is a rare mixed odontogenic tumour of beningn etiology with very few cases reported in literature, comprising of epithelium and mesenchyme having the histopathological characteristics of that of ameloblastic fibroma that contains both enamel and dentin[1]. It is a slow growing encapsulated central tumour more common in the first and second decade of life and has a slight predilection towards the mandible over the maxilla[2]. The tumour may inhibit eruption of deciduous teeth or displace the involved teeth[2]. According to the WHO classification of 2017, it comes under benign mixed epithelial and mesenchymal odontogenic tumours. It is commonly seen in the first two decades of life with

no specific gender predisposition[3-4.] The peak age range is noted to be 8-12 years of age and the patient presents with painless associated with delayed tooth eruption in the affected region.as most of AFOs are associated with unerupted teeth and the incidence shows equal prevelance in both mandible and maxilla with some cases reported showing propensity towards the mandible over the maxilla[5.] CT maxilla is considered a diagnostic tool of choice and shows well-defined radiolucent lesion with central radiopaque mass in the posterior aspect of mandible or maxilla[6.] Microscopic examination revealed connective tissue cores resembling pulp surrounded by atypical dentin with sparse dentinal tubules in longitudinal and cross sections with few areas showed islands of hematoxyphilic substance resembling cementum and areas of bone with osteolytic lacunae[7]. Focal areas of odontoblast-like cells were noted and enucleation is considered the treatment of choice[7].

Case report

A 21/2 year old female patient was brought to the out - patient department in June 1997, with a painless swelling in the upper jaw. The swelling was a slow growing over 1 year of duration and noted on the left side of the anterior maxilla extending onto the right side resulting in gross asymmetry. The nasal bridge appeared to be flattened. Intra oral examination revealed obliteration of maxillary labial vestibule by a soft to firm expansile growth. The deciduous teeth were displaced. Routine blood investigations were carried and were well within normal range. CT scan revealed bicortical expansion of the anterior maxilla. The lesion extended to involve the medial, lateral walls and the roof of the left antrum. The lesion extended onto the right atrium with expansion of the floor of the sinus. There was no evidence of intracranial and intra orbital extension of the lesion. The radiographic showed well defined radiolucency with areas of irregular calcified masses. A provisional diagnosis of odontogenic tumour with odontoma formation was considered. An incisional biopsy was done under GA. The connective tissue was made up of fibroblastic tissue resembling the dental papilla. There were areas of irregularly formed enamel and dentin. The lesion was confirmed to be ameloblastic fibroodontoma.

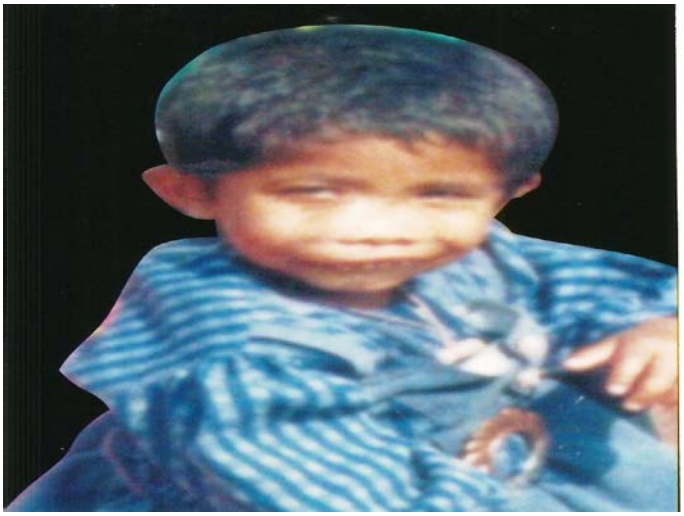

Figure 1: Pre operative picture.

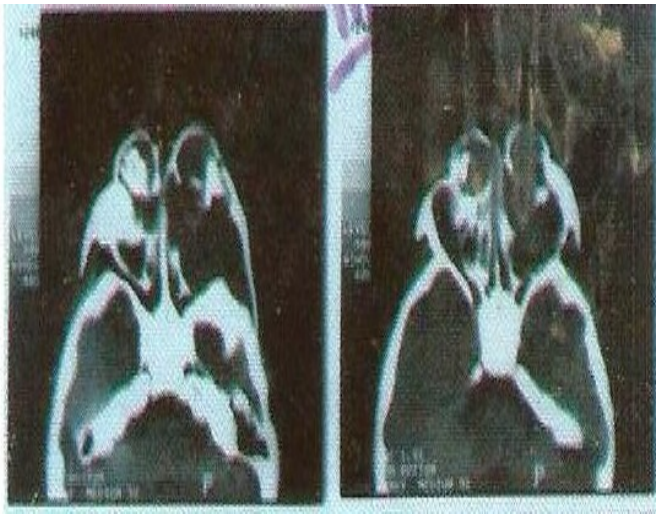

Figure 2: CT Maxilla showing bicortical expansion of the anterior maxilla.

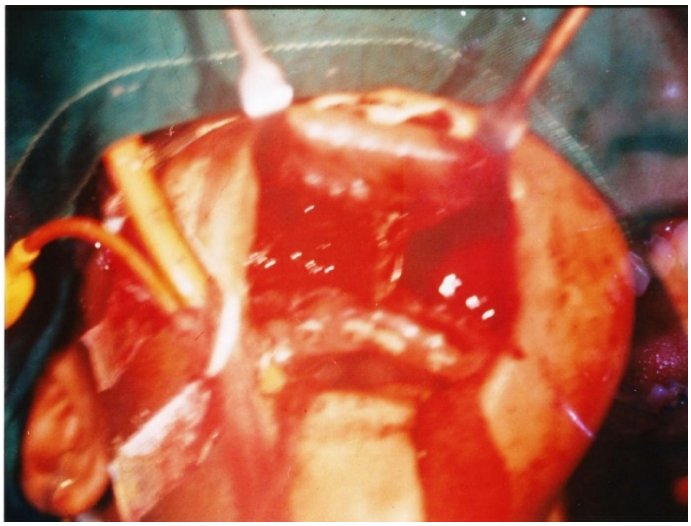

Figure 3: Mucosal flap raised before enucleation.

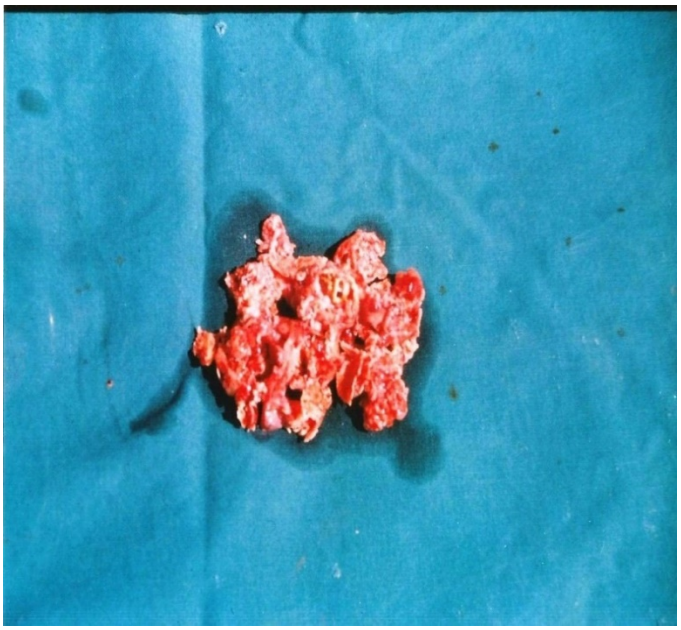

Figure 4: Excised specimen.

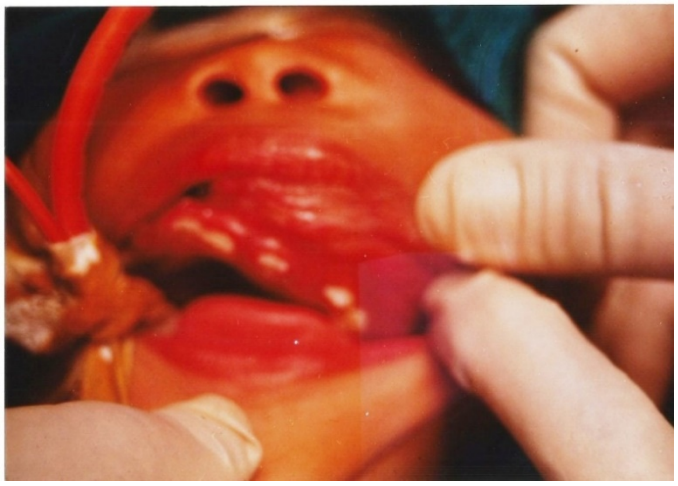

Figure 5: Immediate post operative picture.

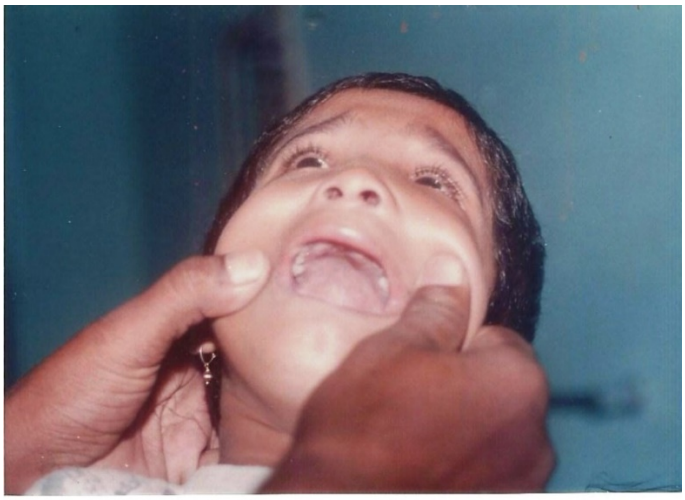

Figure 6: Post operative follow up after 6 years.

Figure 7: Follow up picture of patient after 24 years.

Treatment

The enucleation of the lesion was under GA, through an intra oral approach. A mucoperiosteal flap was raised with a sulcular incision and the tumour mass exposed. After obtaining the cleavage plane, the tumour was enucleated en mass. The permanent tooth buds were removed along with tumour due to their close proximity. Both the antral cavities were packed with betadine soaked ribbon gauze. Mucosal closure was done with 3-0 cat gut. Post -operative period was uneventful. Patient was

followed up after 6 years with a CT scan showing no recurrence. The last follow up was done in November 2020, with patient's age at the time being 26 ½ years of age with no evidence of recurrence.

Discussion

Ameloblastic fibroodontoma is a rare entity, presents with diverse clinical and radiological features[1.] Hooker in 1967 coined this term and there is varied opinion regarding the true nature of this lesion as it is rare in its presentation[2.] The prevalence of the tumour ranges from 1% to 3% considering all odontogenic tumors and there is no gender predilection, with the lesion being equally found in the mandible and maxilla, most commonly in the molar region with some literature quoting affinity to the mandible[3]. CT maxilla at present is considered the gold standard method of diagnosis and shows a well-defined radiolucent area containing various amounts of radiopaque material of irregular size and form[4.] Recurrence can be a threat and can contribute to failure of treatment however the incidence is rare[5.] Treatment of choice for AFO is enucleation with concurrent removal of associated unerupted tooth [6-7]. The tumour is well encapsulated and chances of local invasion is highly unlikely[7]. The risk of malignant transformation is rare however long term follow up is advocated[7].

Conclusion

The management of the condition requires high index of suspicion and good clinical acumen to diagnose it. On CT maxilla any radiopaque mass in maxilla or mandible with unerupted teeth associated with it, AFO should be suspected. Enucleation is the preferred choice of treatment. The purpose of this paper is to report a rare extensive ameloblastic fibroondontoma with its clinical, radiological presentation including its management.

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