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Ameloblastic Fibroma of The Maxilla – A Case Report

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Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Odontogenic tumours are uncommon lesions originating from tissues and cells connected to odontogenesis, as well as from their remnants. Ameloblastic fibroma is a rare mixed odontogenic benign tumor that can occur in either mandible or maxilla but mostly it is found in posterior region of mandible[1]. Ameloblastic Fibroma consists of odontogenic ectomesenchyme resembling the dental papilla and epithelial strands and nests resembling dental lamina and enamel organ. No dental hard tissues are present[2]. In this article we discuss a case of a 17-year-old male patient who was diagnosed ameloblastic fibroma of left maxilla and the way treatment was executed.

Keywords: odontogenic tumors, ameloblastic fibroma, maxilla.

Introduction

Odontogenic tumours are a broad category of growth disorders that include malignant and benign neoplasms as well as anomalies of the oral tissues with self-limited growth. They are principally jaw lesions, majority of them being benign; however some typically show locally infiltrative behaviour.

Ameloblastic fibroma (AF) is a relatively uncommon neoplasm of odontogenic origin comprising about 1.5–4.5% of all odontogenic tumors[3]. Essentially regarded as a tumour of childhood and adolescence, these tumours are often found within the first and second decades of life, with 75% of cases being detected before the age of 20. Males are affected more than females in the ratio of 1.4:1[4]. The tumors occurred more often in the mandible than in the maxilla, with a predilection for the posterior area of the jaws[5]. Ameloblastic fibromas appear radiographically as well-defined unilocular or multilocular radiolucencies surrounded by sclerotic radiopaque boundaries. Microscopically, it consists of islands of cuboidal or columnar epithelial cells dispersed in a primitive connective tissue resembling that of the dental papilla[6]. The preferred course of treatment is surgical excision or extensive curettage with removal of the afflicted teeth. The recurrence rate varies among sources, but is considered to be low[7].

Case Report

A 17 year old male patient reported to the Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Hassan with a chief complaint of swelling and pus discharge in right midface region since 2 weeks which was approximately 3x3cm in size. Patient first visited a private dental clinic where extraction of upper left back tooth region was carried out and an incisional biopsy was done which claimed the lesion to be an infected epidermal inclusion cyst. Patient gave no history of any medical comorbidities and also no parafunctional or deleterious habits. General physical examination revealed the patient to be moderatelt built, moderately nourished and well oriented to time, place and person.

Extraorally, the swelling was diffuse, extending anteroposteriorly from nasolabial fold to 2cm below the outer canthus of left eye and superoinferiorly from ala tragal line to corner of mouth (**Figure 1 and Figure 2)**. Swelling was firm to hard in consistency and mildly tender on palpation.

Intraorally, obliteration of left upper buccal vestibular region was noted irt 25,26,27. Mucosa over swelling appeared normal (**Figure 3)**. Pus discharge was noted through socket of 27. Swelling was of approximately 3x4cm in size and was firm to hard in consistency.

Cone beam computed tomography scan revealed a solitary, fairly demarcated, irregular, partially corticated, unilocular, radiodense rarefaction involving left maxillary dentoalveolar region, maxillary sinus and tuberosity region (**Figure 4**). Developing crown of 28 is noted extremely displaced in superior direction to lie within the disto-superior aspect of the lesion. Features were suggestive of odontogenic origin of the lesion.

In view of the imaging and clinical findings, the presumptive diagnosis of dentigerous cyst of left maxilla was considered. An incisional biopsy of the lesion was done under local anesthesia, which reported the tumor to be an inflamed dentigerous cyst.

After obtaining prior consent, complete examination of systemic conditions was done and in absence of any systemic conditions, the surgical procedure was done. The patient was intubated under general anesthesia and after achieving adequate vasoconstriction using 2% lidocaine with 1:80,000 adrenaline, vestibular incision was placed in region of 24-27 region and a full thickness mucoperiosteal flap was raised (**Figure 5**). Left side maxillary antral wall exposed, a bony window created (**Figure 6)**, and lesion within the sinus was enucleated (**Figure 7)**. Deep seated impacted 28 was also removed. Infected maxillary sinus lining was also removed. The excised specimen (**Figure 8)** was sent for histopathological evaluation. Wound closure was done

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using 3-0 vicryl suture material (**Figure 9)** and patient was extubated uneventfully.

Histopathological evaluation of excised specimen revealed fragments of tissue lined by mucosa and respiratory epithelium with surface ulceration and subepithelial fibro collagenous stroma with inactive odontognic epithelium in cords and nests. Fibro collagenous stroma showed edema with chronic inflammatory cell infiltrates with occasional lymphoid follicles (**Figure 10)**.

Patient was discharged after 3 days post-operatively and started on oral antibiotic and analgesic course. Suture removal was done after 14 days. Pt was educated about post-operative care and told to come for regular follow-up. No post-operative complications was recorded. An orthopantamograph was taken 6 months postoperatively (**Figure 11)**.

Discussion

The WHO classification defines ameloblastic fibroma as "a rare benign neoplasm in which both the odontogenic epithelial and ectomesenchymal components are neoplastic"[8]. It was introduced as Ameloblastic Fibroma in 1891. AF has slight predilection for males with male-to-female ratio of 1.2:1–1.4:1. Although it may occur in either jaw, it is found five times more often in the mandible than the maxilla[7].

Rarely exhibiting any symptoms, AF typically manifests as a firm swelling with intact overlying mucosa. When viewed radiographically, ameloblastic fibromas are often unilocular lesions; bigger lesions, however, may be multilocular with smoothly defined borders. They may be confused as dentigerous cyst as these lesions are usually associated with unerupted teeth[2].

Microscopically, ameloblastic fibromas are made up of epithelial and connective tissue components, the connective tissue component resembling dental papilla containing spindled and angular cells with delicate collagen, giving a myxomatous appearance. Excessive cellularity of AF is thought to be a result of overproduction of the basal lamina during tooth formation, but without odontogenic differentiation.

The differential diagnosis of AF includes odontogenic cyst and tumors such as dentigerous cyst, ameloblastoma, odontogenic keratocyst, myxoma, and other mixed tumors[9]. AF has a tendency for recurrence and different recurrence rates have been reported in literature ranging from 16.3% to 33.3%[10].

There is still disagreement on the best course of action for treating AF. To reduce the amount of disability resulting from more involved treatments, some authors advise treating minor lesions with conservative measures like curettage and enucleation. It is suggested that an extensive approach of marginal or segmental resection should be considered in patients with extensive multilocular lesions and recurrent cases[11]. In the present case, owing to the small size of the lesion and taking the age of the patient into consideration, a simple enucleation and curettage of lesion was performed. Regular follow up was done and after a routine 6th month post-operative OPG was taken, no signs of recurrence or malignant transformation was noted.

Conclusion

Ameloblastic Fibroma, being a benign odontogenic mixed tumor has very good prognosis. Treatment of choice is usually conservative, by performing enucleation and curettage of lesion and surrounding tissue, under general anesthesia. It is not uncommon for the lesion to recur, and hence long term follow up is necessary after removal of lesion.

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Legend Figures

Figure 1:

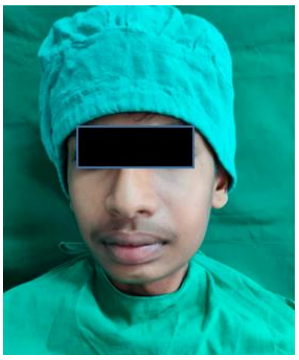

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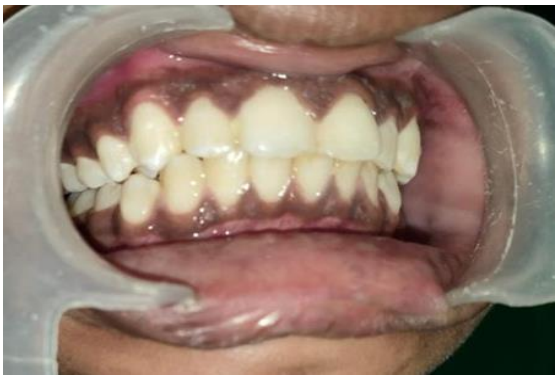
Figure 3:



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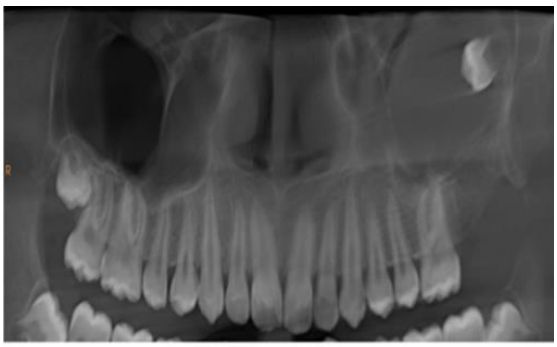

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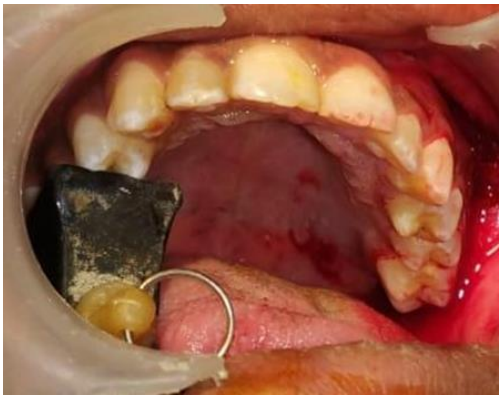

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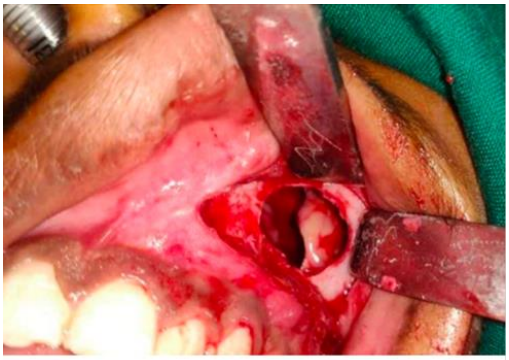

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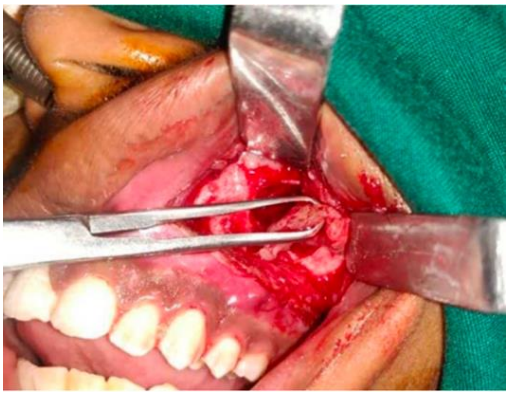

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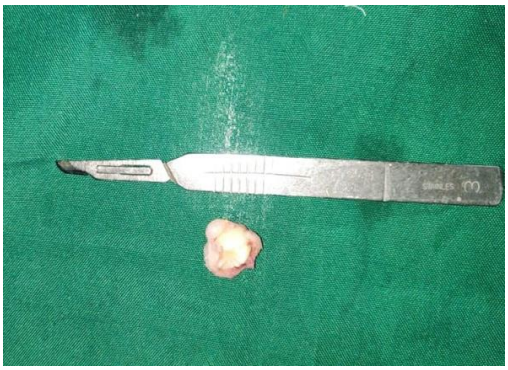

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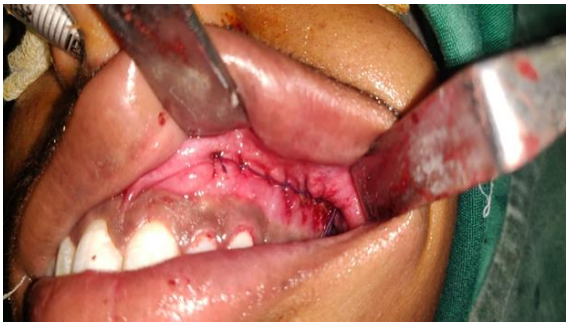

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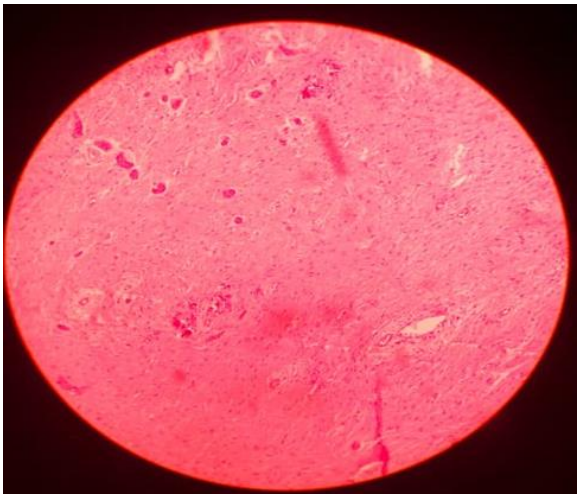

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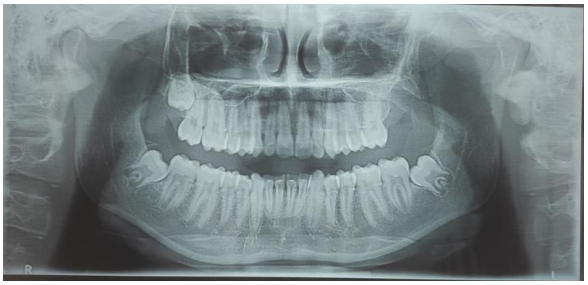

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