

JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH

How to cite this article:

KAMAL M. AMELOBLASTIC FIBROMA- A CASE REPORT. Journal of Clinical and Diagnostic Research [serial online] 2010 December [cited: 2010 December 10]; 4:3550-3553.

Available from

http://www.jcdr.in/article_fulltext.asp?issn=0973-709x&year=2010&volume=4&issue=6&page=3550-3553&issn=0973-709x&id=1025

CASE REPORT

Ameloblastic Fibroma- A Case Report

MEET KAMAL*

ABSTRACT

Ameloblastic fibroma is defined as - a true mixed tumour and a relatively uncommon neoplasm of odontogenic origin. It is characterised by the simultaneous proliferation of both epithelial and mesenchymal tissue without the formation of enamel or dentin. This tumour tends to occur in the first two decades of life, with a male predilection. Here, we report a case of Ameloblastic fibroma in a 9 year old girl, which was associated with unerupted 47.

Key words: rare true mixed tumour- ameloblastic fibroma, female patient, unerupted 47.

*Professor & Head, Department of Oral & Maxillofacial Pathology, Gian Sagar Dental College, RamNagar, Banur, Punjab.
Corresponding Author:
Dr. Meet Kamal,

House no.1059, Sect.2, Panchkula-134112,
Haryana,
Phone no :(0)9417003548, 9779574202
E-mail: meetmeet2000@yahoo.com

INTRODUCTION

Ameloblastic fibroma (AF) is a true mixed neoplasm of odontogenic origin without the formation of hard tissues [1],[5].

Some investigators have suggested that AF represents an immature complex odontoma and that if left undisturbed, it will ultimately differentiate into Ameloblastic fibro-odontoma and then continue to mature into a completely differentiated odontoma[3]. AFs tend to occur in the first two decades of life, most commonly in males [2].

This article reports a case of AF which was associated with unerupted 47 in a 9 year old girl, which is in contrary to its documented sex predilection in males.

CASE REPORT

A 9 year old female patient reported to the Out Patient's Department of Gian Sagar DentalCollege, Ram Nagar, Banur, with the

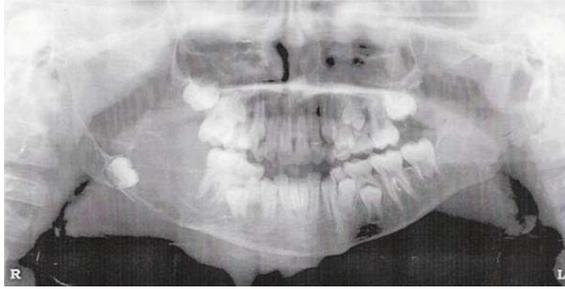
complaint of pain and swelling in the right lower side of the mouth since 15 days.

The swelling extended from the right angle of the mandible to the right corner of the mouth mesiodistally and superoinferiorly to the whole body of the mandible on the right side. Intra oral examination revealed a fluctuant swelling with respect to the buccal aspect of 43, 84, 85 and 46.

OPG revealed a multilocular radiolucency on the right side of the mandible, involving the body and the angle of the mandible with unerupted 47 [Table/Fig 1].

[Table/Fig 1]: Multilocular radiolucency associated with unerupted

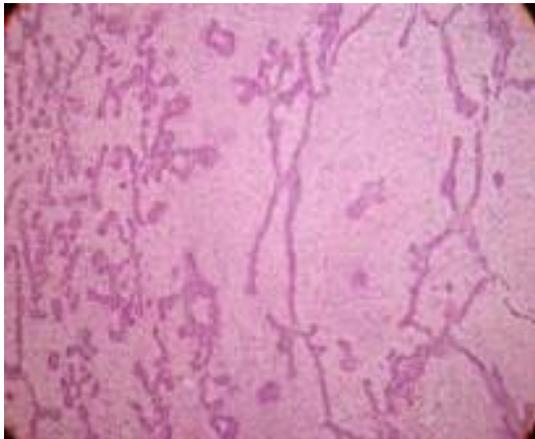
47



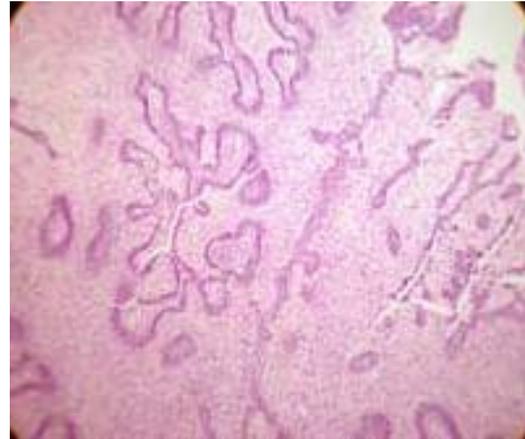
A provisional diagnosis of dentigerous cyst was made and incisional biopsy was done.

HISTOPATHOLOGY

On H and E, staining the biopsied section revealed a cell rich mesenchymal tissue consisting of plump stellate and ovoid cells in a loose matrix, resembling the primitive dental papilla and admixed with odontogenic epithelium. The epithelial component consisted of clumps and proliferating strands of odontogenic epithelium [Table/Fig 2] and [Table/Fig 3].

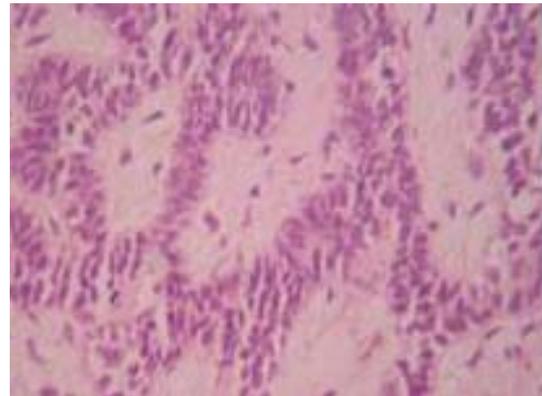


[Table/Fig 2]: epithelial components as seen under scanner

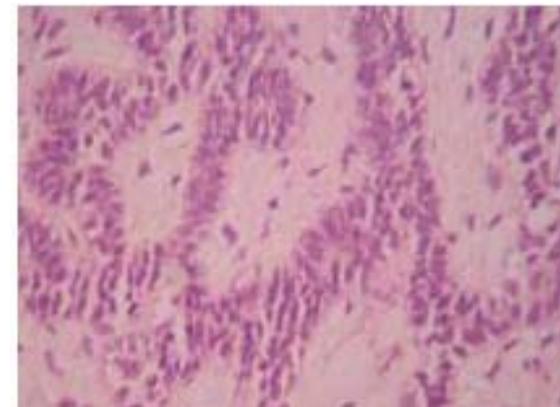


[Table/Fig 3]: clumps and islands of odontogenic epithelial component as seen under 10x

The peripheral layer of cuboidal or columnar cells was seen, which enclosed a few stellate reticulum like cells [Table/Fig 4]. Juxtaepithelial hyalinization was seen [Table/Fig 5]; these features were consistent with Ameloblastic fibroma.



[Table/Fig 4]: peripheral layer of cuboidal/columnar cells enclosing stellate reticulum like cells



[Table/Fig 5]: juxta epithelial hyalinization seen

DISCUSSION

AF is a rare benign tumour of odontogenic origin in which both the epithelial and mesenchymal elements are neoplastic [5],[6]. AF must be differentiated from Ameloblastoma. Unlike Ameloblastoma, it does not exhibit local invasive growth pattern [5]. It is a well circumscribed tumour which does not require radical excision that may be necessary to be effective for cure as in the case of Ameloblastoma [4] [7].

Radiographically, ameloblastic fibromas are unilocular lesions which are occasionally multilocular when larger, with smooth well-demarcated borders [8]. Cortical expansion may or may not be discernable on a plane film. Because the lesions are frequently associated with unerupted teeth, they may initially be interpreted as dentigerous cysts [9],[10],[11],[12].

Grossly, ameloblastic fibroma appears as a firm, lobular soft tissue mass with a smooth surface [10]. If a tooth is associated with the lesion, it may accompany the specimen. A capsule is generally not appreciated. Microscopically, an ameloblastic fibroma is composed of a connective tissue background that appears to recapitulate the dental papilla, resembling stellate reticulum [9],[10],[12]. This tissue is composed of spindled and angular cells with little collagen, imparting a myxomatous appearance. The epithelial component is made up of thin branching cords or small nests of odontogenic epithelium with little cytoplasm and basophilic nuclei. Larger nests may show a central area of stellate reticulum. Mitoses should not be a feature of ameloblastic fibroma [9],[10]. The presence of mitosis should expand the differential diagnosis to include malignant entities like ameloblastic fibrosarcoma. Finally, immunohistochemistry generally does not aid in differentiating ameloblastic fibroma from other mixed odontogenic tumours.

The **treatment** of choice is complete surgical excision or thorough curettage, with the removal of the affected teeth [9],[13]. The recurrence rate is low, but it varies [12],[14]. One of the uncommon possibilities of the malignant

transformation of ameloblastic fibroma into ameloblastic fibrosarcoma is also seen [15],[16].

The differential diagnosis for ameloblastic fibroma [17]:

- Ameloblastoma
- Odontogenic myxoma
- Dentigerous cyst
- Odontogenic keratocyst
- Central giant cell granuloma
- Histiocytosis
- Calcifying epithelial odontogenic tumour
- Calcifying odontogenic cyst
- Developing odontoma
- Adenomatoid odontogenic tumour

Some investigators have suggested that AF represents an immature complex Odontoma and that if left undisturbed, it will ultimately differentiate into Ameloblastic fibroodontoma and then continue to mature into a completely differentiated Odontoma. But, Eversole et al and Sloomweg has emphasized that if the three lesions –AF, Ameloblastic fibroodontoma and Odontoma were simply stages in continuum, the clinical data of each of these should support this. But after their investigation on many cases, they concluded that AF represents a separate specific entity that does not develop into a more differentiated odontogenic lesion [1].

AF occurs in the younger age group with a male predilection, but in the reported case, the lesion has occurred in a 9 year old female patient, which is in contrary to the documented sex predilection.

CONCLUSION

A case of Ameloblastic fibroma, occurring in the posterior mandible of a 9 year old female patient and associated with unerupted 47, is reported with characteristic histopathological features. This entity was treated by curettage, since it did not appear to locally invade the bone [7].

The prognosis was excellent and recurrence after conservative removal is unusual.

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