AMELOBLASTIC FIBROMA OF ANTERIOR MAXILLA – A CASE REPORT

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Abstract:

Ameloblastic fibroma is a rare mixed odontogenic tumour. Its usual site of occurrence is the posterior mandible, with very few cases being reported from the maxilla. The true nature of the lesion - hamartomatous or neoplastic – is still a point of debate. Here, we report a case of ameloblastic fibroma in the anterior maxilla.

Key-words:

Ameloblastic fibroma, neoplasm, hamartoma

Introduction

The ameloblastic fibroma is a true mixed odontogenic tumour in which epithelial and mesenchymal tissues are both neoplastic. It is a rare tumour, accounting for only 2.5% of odontogenic tumors[1]. Over 80% of the cases occur in the mandible, the usual site being the canine-molar region[2]. There have been 23 previously reported cases of tumour in the maxilla, with only five occurring in the anterior maxilla[1, 3, 4]. These patients usually present with intraoral findings including a mass on the anterior upper jaw, swelling of the alveolar process, and noneruption of teeth.

Lesions composed of similar elements, but in which inductive change has resulted in the deposition of dentin alone or dentin and enamel, are termed as ameloblastic fibrodentinoma and ameloblastic fibroodontoma respectively [5]. Odontomas consist of fully developed enamel and dentin with variable amounts of pulp and cementum.

We report here a case of ameloblastic fibroma occurring in the anterior maxilla.

Case Report

A 10 year old male patient,reported to the Department Of Oral Pathology at GDC, Calicut in March, 2009, with a complaint of failure of eruption of upper front tooth. On examination, it was seen that 22 and 23 were missing / unerupted. The deciduous teeth in the region had exfoliated 2 years back. Intraoral radiography revealed a multilocular radiolucent lesion of size 1x 1.5 cm coronal to impacted 22, but did not appear attached to it. With these data a provisional diagnosis of dentigerous cyst/ eruption cyst was made.

Excision biopsy of the lesion was done under local anaesthesia, and 22 was retained. Histopathologic examination revealed strands and islands of odontogenic epithelium, with a peripheral row of tall columnar cells enclosing a central area consisting of cells resembling stellate reticulum. The connective tissue cells were rounded to angular in a delicately collagenous matrix.

A diagnosis of ameloblastic fibroma was given on these bases.

1 year after enucleation, there was no evidence of tumour recurrence and the associated impacted tooth had erupted.

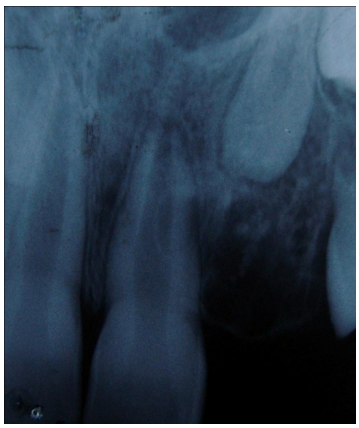


Fig.2. IOPA showing radiolucent lesion in 22 region

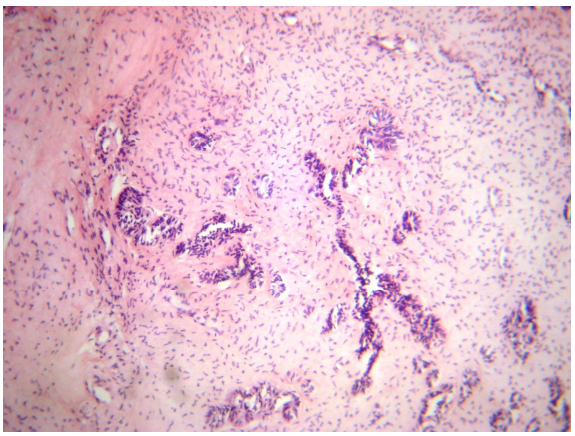
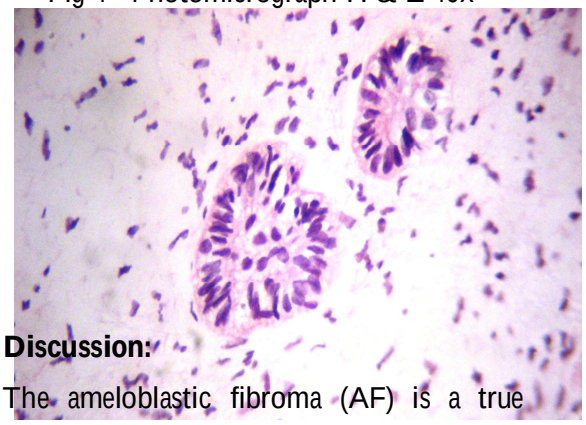


Fig 3 - Photomicrograph H & E 10x

Fig 4 - Photomicrograph H & E 40x



Discussion:

The ameloblastic fibroma (AF) is a true mixed odontogenic tumour in which epithelial and mesenchymal tissues are both

neoplastic. AF tends to occur in younger patients; however, the age of presentation has been reported from 7 weeks to 42 years[2]. The tumour is slightly more common in males than in females. The posterior mandible is the most common site, but in our case, the tumour was present in the anterior maxilla.

The AF occurs as a painless, slow- growing expansile lesion of the jaws, but may give rise to considerable swelling[5]. However, around 23.3% of the cases are accidentally found on routine radiographic examination[6]. In our case, the presenting complaint was noneruption of teeth in the vicinity of the tumor.

On histological examination, the epithelial and connective tissue components are both neoplastic. The epithelial component is usually in the form of strands, cords, and islands, often consisting of a peripheral layer of cuboidal or columnar odontogenic cells and a central area resembling the stellate reticulum of enamel organ. Mitotic activity is not common. The connective tissue component is much more cellular than in ameloblastoma; the cells mimicking the dental papilla or primitive pulp tissue. Although a cell-free zone and/or a zone of hyalinization are occasionally found at the epithelial-mesenchymal interface, no enamel or dentin deposition is seen in case of a true AF[6].

According to Cahn and Blum[8], AF is a hamartomatous lesion which, over time, will mature into an ameloblastic fibro-odontoma, and finally into mineralized complex odontoma. This 'continuum concept' is however not widely accepted because:

- Recurrent cases of AF do not show further histodifferentiation into dental hard tissues
- AF usually occur at an older age group than ameloblastic fibroodontomas or odontomas

However, according to Philipsen et al[9], AF occurring after the age of 20 years are true benign neoplasms while those occuring during the period of odontogenesis, may represent non-neoplastic hamartomatous lesions which is the first stage of a developing complex odontoma.

Considering the young age of the patient in our case, it could be grouped as the hamartomatous variety of AF as suggested by Philipsen and Reichart.

The preferred mode of treatment for AF is conservative surgery; more radical procedures being reserved for larger lesions or recurrent lesions. The overall recurrence rate is estimated to be around 33.3%, with a lower incidence among younger patients[6]. Hence, enucleation alone was considered sufficient in our patient, especially taking into account his young age.

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