

## CASE REPORT

# Ameloblastic Fibro-Dentinoma of Mandible: A Case Report

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### Summary:

The reported case is a 10-year-old boy presented with a hard, non-tender, expansive swelling of the right mandibular body of 4 years duration. The case was diagnosed as ameloblastic

fibro-dentinoma and enucleated through intra-oral approach. No recurrence was found in 39 months follow up.

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### Introduction :

Ameloblastic fibro-dentinoma is a rare odontogenic tumor<sup>1-4</sup>. It is mostly seen in childhood as a slowly growing swelling in mandible or maxilla<sup>3</sup>. It is a mixed odontogenic tumor consisting of both epithelial and connective tissue components of dental tissue. Single or several unerupted teeth are usually associated with the lesion<sup>5</sup>. Clinical, radiological and histological features of ameloblastic fibro-dentinoma may mimic to ameloblastic fibro-odontoma, odontoma, ameloblastic fibroma and cemento-ossifying fibroma. As the tumor is well capsulated, it can be treated by enucleation or excision with a very low rate of recurrence<sup>3,5</sup>. In this communication we report a case of ameloblastic fibro-dentinoma of mandible.

on overlying mucosa. There was no enlargement of the cervical lymph nodes. The patient was otherwise healthy on systemic examination and relevant investigations.



Fig 1: Pre-operative extra oral front view.

### Case Report :

A 10 year-old-boy attended the Oral and Maxillofacial Surgery Department, Dhaka Dental College & Hospital in July 2002 with a moderately large swelling in right lower jaw for the last four years. Local examination revealed a hard, non-tender expansile swelling measuring (6cmx4cmx6cm) in right mandibular body (Fig 1). The swelling expanded buccally, lingually and in lower border. The bony swelling extended from symphysis to the second molar tooth with loosening of the affected teeth and missing of premolars and no ulceration or pulsation

Radiologically, in Orthopantomogram the lesion appeared as well-defined radiolucency with radiopaque areas and impacted teeth within. The radiograph showed expansion and thinning of cortex in lower border of the mandible (Fig 2).

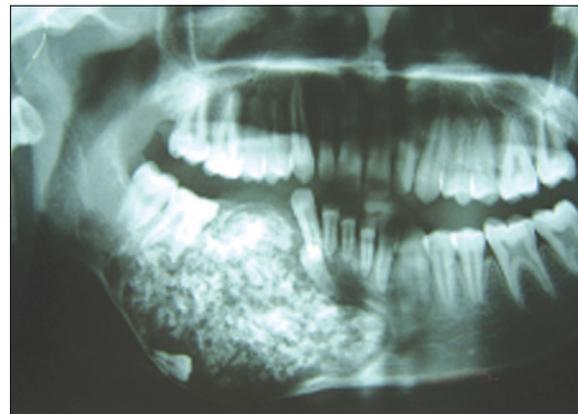
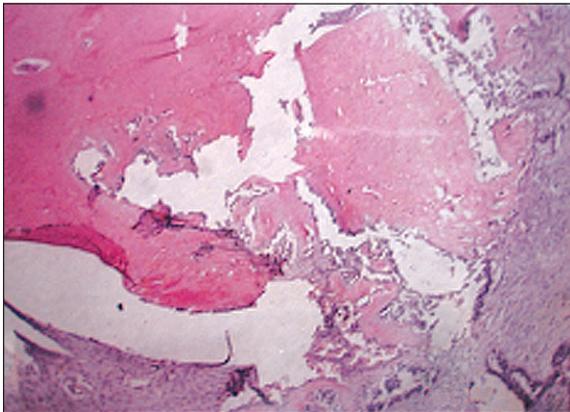


Fig 2: Panoramic radiographic appearance

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Histologically, the specimen showed connective tissue resembling dental papilla. In some areas, connective tissue contained odontogenic epithelium in the form of slender sheets consisting of double layers of rounded or cuboidal cells. In addition poorly organized dentine were seen. Strands of odontogenic epithelium were closely associated with the dentine (Fig 3)

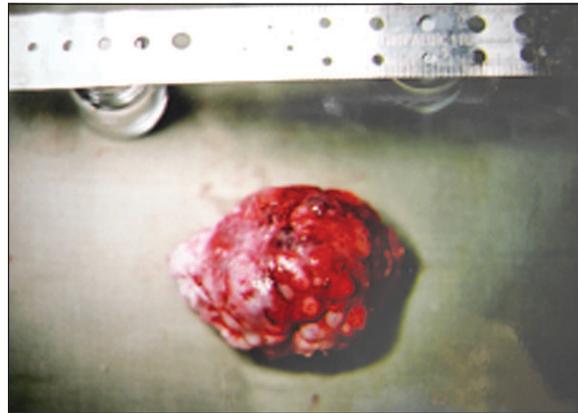


**Fig 3:** High power microscopic appearance.

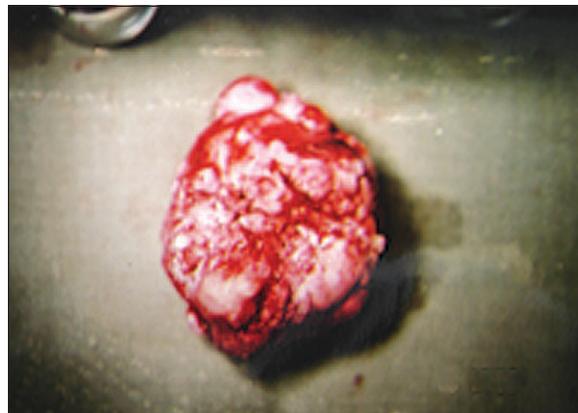


**Fig 4:** 10 days Postoperative front view

The tumor was enucleated (Fig 5,6) through intra-oral approach under general anaesthesia. A lower right buccal sulcus incision was given and the lesion was exposed by proper dissection. After enucleation and proper hemostasis wound was closed by 3/0 vicryl. The mandible was immobilized for three weeks to prevent pathological fracture. No sign of recurrence of the tumor was found during 39 months follow up.



**Fig 5:** Specimen after enucleation (outer surface).



**Fig 6:** Specimen after enucleation (inner surface)

#### Discussion :

Ameloblastic fibro-dentinoma is a rare variant of ameloblastic fibro-odontoma<sup>1,2</sup>. This type of tumor is first detected in our department and possibly the first reported case in Bangladesh. Since ameloblastic fibro-odontoma and dentinoma are painless, slow growing expanding tumor commonly associated with an unerupted tooth<sup>5</sup>, both Phillipsen<sup>5</sup> et al and Shootweg<sup>6</sup> argue that these characteristics make it more likely that the lesion is a precursor to complex odontoma; in other words hamartomatous; in contrast to ameloblastic fibroma which is known to have a neoplastic character<sup>5</sup>. It appears as painless swelling in the jaw mostly seen in early ages. The reported case of an early aged patient also showed several unerupted teeth within the lesion which was slow growing and expansive in nature. It has no sex predilection. It is equally seen in both maxilla and mandible. Clinically and pathologically ameloblastic fibro-dentinoma, ameloblastic fibro-odontoma and

odontoma are almost same<sup>6</sup>. But, in the revised WHO classification<sup>7</sup> of odontogenic tumors, both tumors were accepted as distinct entities. Presence of tooth germ elements e.g. enamels and dentine in combination or only dentine in isolation help in differentiation of both the lesion. Due to presence of dentine only, the presented case was considered as true ameloblastic fibro-dentinoma.

Though some authors believe that the mixed odontogenic tumors like ameloblastic fibroma, ameloblastic fibro-dentinoma and odontoma are different entities, others consider that they are the different stages of the same lesion<sup>6,8</sup>.

Radiologically, ameloblastic fibro-dentinoma appears as radiopaque masses in well-circumscribed radiolucent outline. It should be differentiated from cemento-ossifying fibroma, odonto-ameloblastoma or a large odontoma. Initially on radiograph, the reported case was diagnosed as a complex odontoma though the size of lesion was not in support. Then in histopathological examination, the presence of ameloblastic cells with fibrous tissue and abundant dentine formation confirmed the diagnosis as ameloblastic fibro-dentinoma.

Microscopically, ameloblastic fibro-dentinoma has both epithelial and connective tissue components. The epithelial ameloblast cells have inductive effect resulted in deposition of dentine matrix or dentinoid. Most often it has distinctive fibrous connective tissue capsule. As it is a capsulated lesion, conservative surgery is the treatment of choice<sup>3,5</sup>. The case reported here simulates with the ameloblastic fibro-dentinoma radiologically and

histologically and enucleated accordingly. No recurrence was found in 39 months follow up. Despite the low potential of the tumor to locally recur, a careful follow up is recommended. A follow up of few months or few years is generally insufficient to state that a definitive cure has been achieved.

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