

Mandibular Ameloblastic Fibro-odontoma

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Abstract

We present the case of a 6-year-old boy diagnosed with ameloblastic fibro-odontoma in the mandibular premolar region. The patient underwent excision of the tumour under general anaesthesia. On histopathological study, the tumour was found to be comprised of odontogenic epithelium, mesenchymal tissue, dentin, adamantine and dental cementum, surrounded by ameloblastic fibroma. Interestingly, most of the tumour was comprised of hard tissues, including adamantine, dentin and dental cementum, unlike most ameloblastic fibro-odontomas in which soft tissues dominate.

Key words: Immunohistochemistry, Mandible, Odontogenic tumors, Odontoma

Introduction

Ameloblastic fibro-odontoma is known as an ameloblastic fibroma with dentin and adamantine components,^{1,2} comprising 2% of all odontogenic neoplasms.³ With a predilection for onset around 10 to 15 years of age, 90% of cases are found before 20 years of age, and no gender differences have been identified.^{4,5} These tumours are most commonly situated in the premolar region of the mandible and the maxillary anterior teeth region.⁶ The major component of ameloblastic fibro-odontomas reported thus far has been fibromatous tissue, with hard tissues representing only a small proportion of the tumour.⁷ We report here a rare case of ameloblastic fibro-odontoma predominantly comprising hard tissue.

Case Report

A 6-year-old boy was brought in by his parents with a painless swelling of the mandible in October 2003. On examination, the lesion was found to be located at the lateral distal cusp region of the second deciduous molar of the left mandible (Figure 1).

Panoramic radiography exhibited a well-demarcated, radiopaque lesion surrounded by a radiolucent area at the anterior margin of the mandible ramus. The second deciduous molar of the left mandible appeared to be depressed by the tumour. Within this region, numerous disseminated areas of opacity were seen. In addition, radiographic findings displayed a radiolucent area around the tumour. Furthermore, dental impaction of the first deciduous molar of the left



Figure 1. An eminence was identified in the gingiva of the left mandibular premolar region (arrowheads). The mucosal surface was normal.

mandible was identified, and a displaced image resulting from a compressive pathological lesion located in the centrifugal region of the second deciduous molar of the left mandible was confirmed (Figure 2).

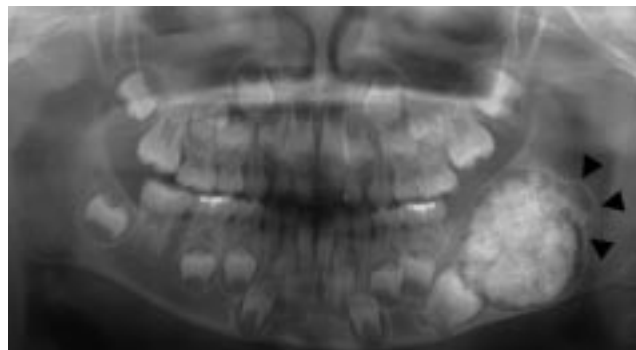


Figure 2. Panoramic radiographic examination showing a large lesion in the body of the left mandible. Dental impaction of the first deciduous molar of the left mandible was identified and displacement due to the compressive pathological lesion in the centrifugal region of the second deciduous molar of the left mandible confirmed (arrowheads).

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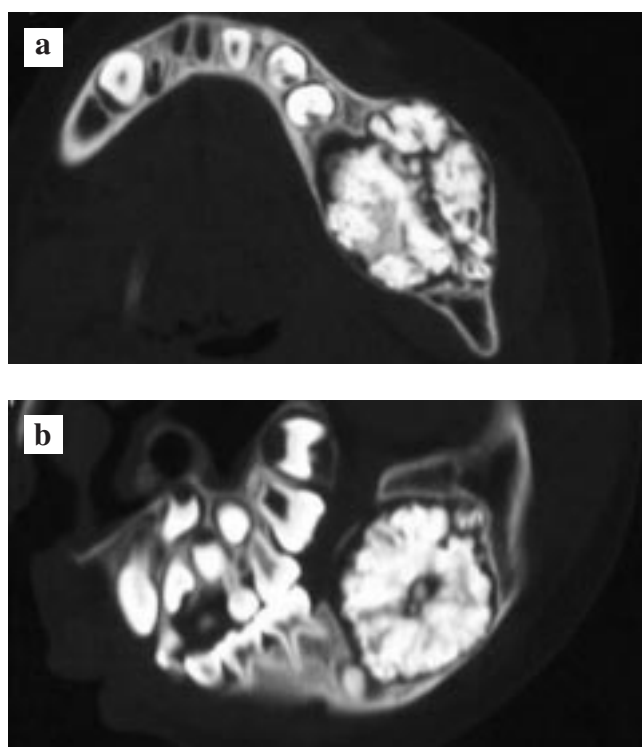


Figure 3. Computed tomography images of the mandible.

Computed tomography imaging revealed a 30 × 30 mm lesion on the medial surface of the mandible in the region demarcated in the radiographic findings and the buccolingual swelling of the mandible with thinning of the cortical bone (Figure 3). Based on the results of radiography, a complex odontoma was suspected.

The patient underwent excision of the tumour under general anaesthesia in November 2003. Briefly, an incision was made in the gingiva of the left mandibular premolar region and a mucoperiosteal flap was elevated. Subsequent excision of the buccal cortical bone exposed the tumour. Operative findings revealed that a thin capsule covered the tumour and that the tumour margin and surrounding bone were clearly defined (Figures 4 and 5). Due to its large size, the tumour was excised in multiple pieces.



Figure 4. Operative photograph. Tumour contains numerous odontoma-like hard tissues in the mandible.

The excised specimen measured 40 × 35 × 33 mm. The surrounding soft tissue was stripped from the mass. The central part of the mass consisted of a hard, cauliflower-like, yellowish-white tissue partially covered by a layer of soft connective tissue. On cut sections, the hard mass displayed a stellate pattern with spicules radiating from the center of the lesion. The central hard mass comprised a large amount of calcified tissue, and large amounts of enamel were also present.

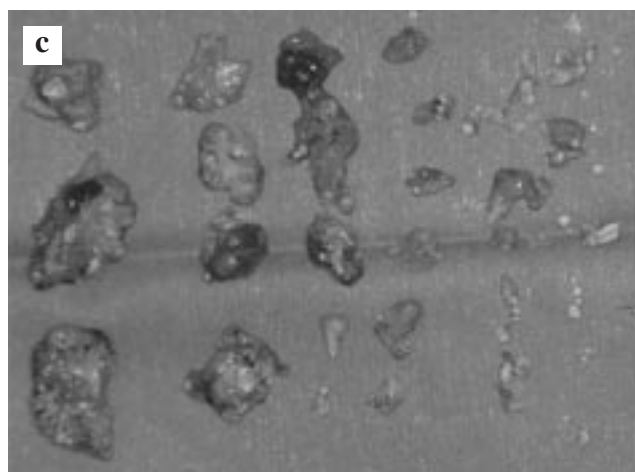
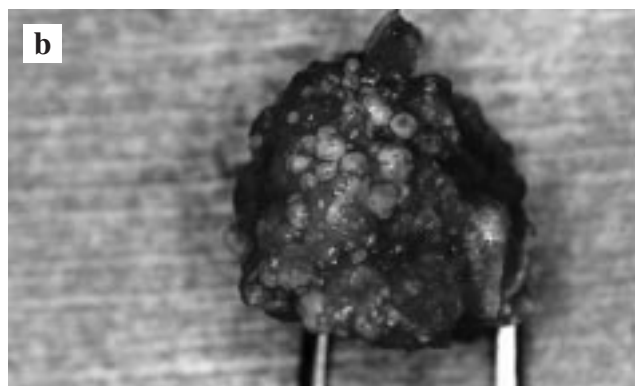
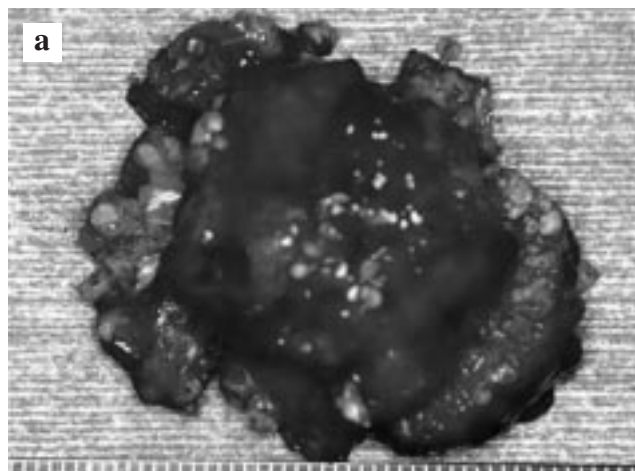


Figure 5. (a) The excised tumour was covered by a thin capsule. (b) Section exhibits a mixed matrix of soft tissue and odontoma-like hard tissues. (c) Numerous odontoma-like hard tissues were identified.

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