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CASE REPORT

NEED FOR HISTOPATHOLOGICAL EXAMINATION OF ODONTOMAS

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ABSTRACT:

Odontomas are benign hamartomas which are often detected on routine radiographic examinations for other dental complaints. They are usually surgically removed but are rarely examined histopathologically. We report two cases with identical radiological features but different histopathological outcome, thus stressing the importance of histopathological examination of odontoma.

Key words: Odontoma, Compound odontoma, Ameloblastic fibro-odontoma, Radiological features, Histopathology.

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INTRODUCTION:

Odontomas are the most common of the odontogenic tumors of the jaws. They are mixed tumors, consisting of both epithelial and mesenchymal cells that present a complete dental tissue differentiation (enamel, dentin, cementum and pulp) [1]. Odontomas are the most commonly encountered odontogenic tumors which account for 22% of all odontogenic tumors of the jaws [2]. It has been

proposed that local traumas or infections may cause odontomas [2, 3]. We report two cases of odontomas, one occurring at a common site the other at an uncommon site. We also describe their histopathological features which are rarely reported.

CASE REPORT:

Case 1: A 22-year-old female patient reported to the dental clinic with complaints of irregularly

placed teeth in the front region of upper jaw. On clinical examination over-retained maxillary deciduous lateral incisor and canine were noticed. An intraoral periapical radiograph of the same region was made. The radiograph showed impacted maxillary permanent lateral and canine surrounded by normal crypt space.

A multiple radio-opaque globular mass resembling teeth were also observed obstructing the eruption of permanent lateral and canine. The radio-opaque masses were encircled by a radiolucent rim indicative of capsule (Figure 1).

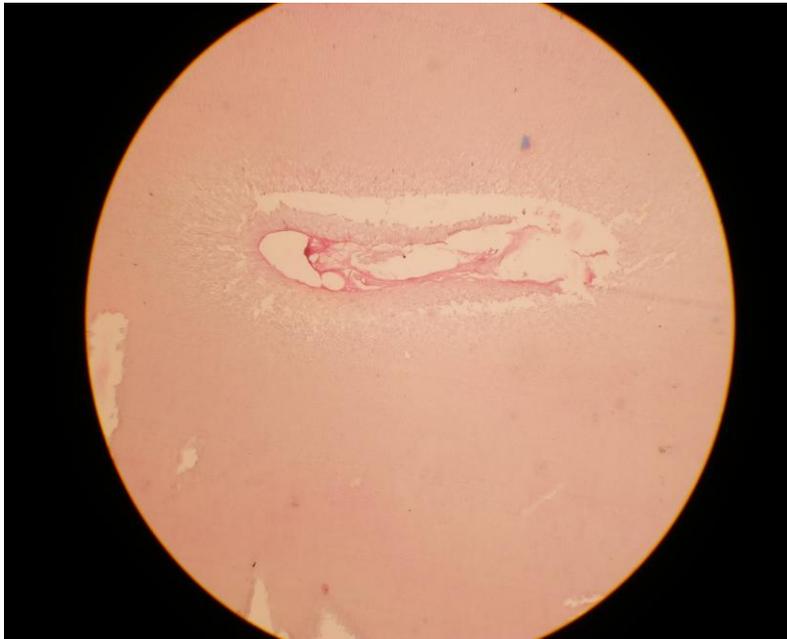
Figure 1: Intraoral periapical radiograph showing multiple teeth like radio-opaque masses and an impacted canine and lateral incisor.



Based on the radiological findings and the site of occurrence a provisional diagnosis of compound odontoma was made. The deciduous lateral incisor and canine were extracted under local anesthetic and the

odontomas were excavated surgically. The surgical specimen was evaluated histopathologically. It revealed presence of calcified mass resembling dentine and a well differentiated pulp chamber (Figure 2).

Figure 2: Histopathological view showing presence of calcified mass resembling dentine and a well differentiated pulp chamber.



Case 2: A 27-year-old male patient reported to us with complaints of decayed tooth in the left back region of lower jaw since 6 months. The patient was clinically examined and an intraoral periapical radiograph was made. The radiograph showed grossly decayed lower first molar with inter-radicular radiolucency and periapical radio-opaque globular masses (Figure 3).

Based on the radiological findings and the site of occurrence a provisional diagnosis of complex odontoma was made. The molar was extracted under local anesthetic and the

odontomas were excavated surgically. The post surgical intraoral periapical radiograph was made (Figure 4).

Histopathological examination revealed presence of calcified structures resembling dentine and abundant fibrous tissue interspersed with ameloblast-like epithelial islands (Figure 5). Based on these histopathological findings a final diagnosis of ameloblastic fibro-odontoma was made.

Figure 3: Intra oral periapical radiograph showing inter-radicular radiolucency and periapical radio-opaque globules.

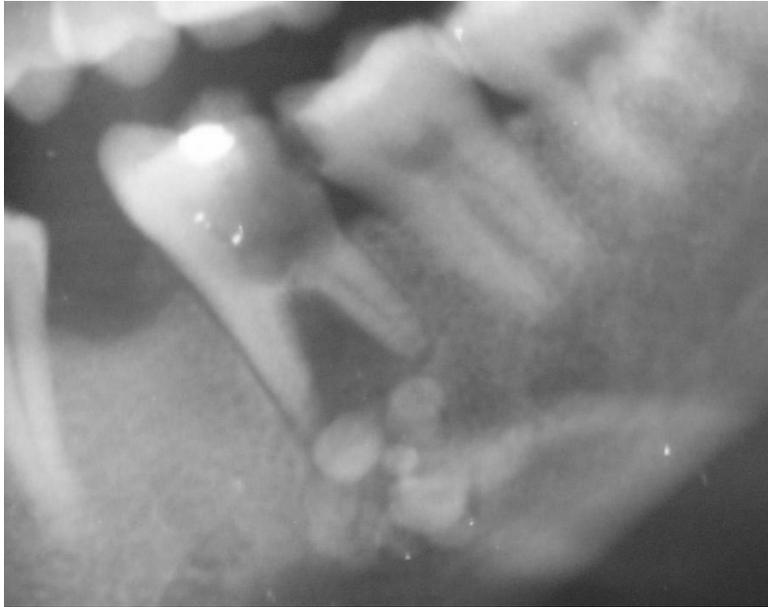


Figure 4: Intra oral periapical radiograph showing post surgical site

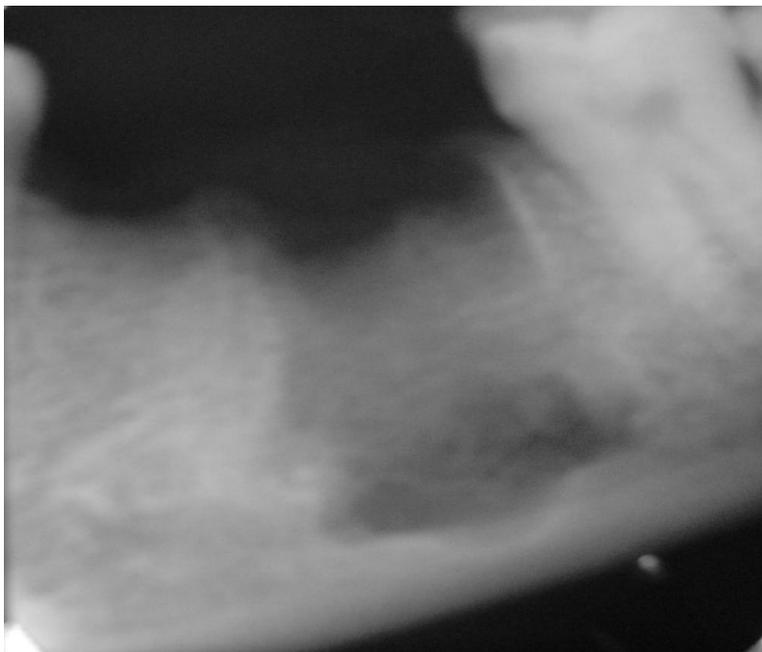
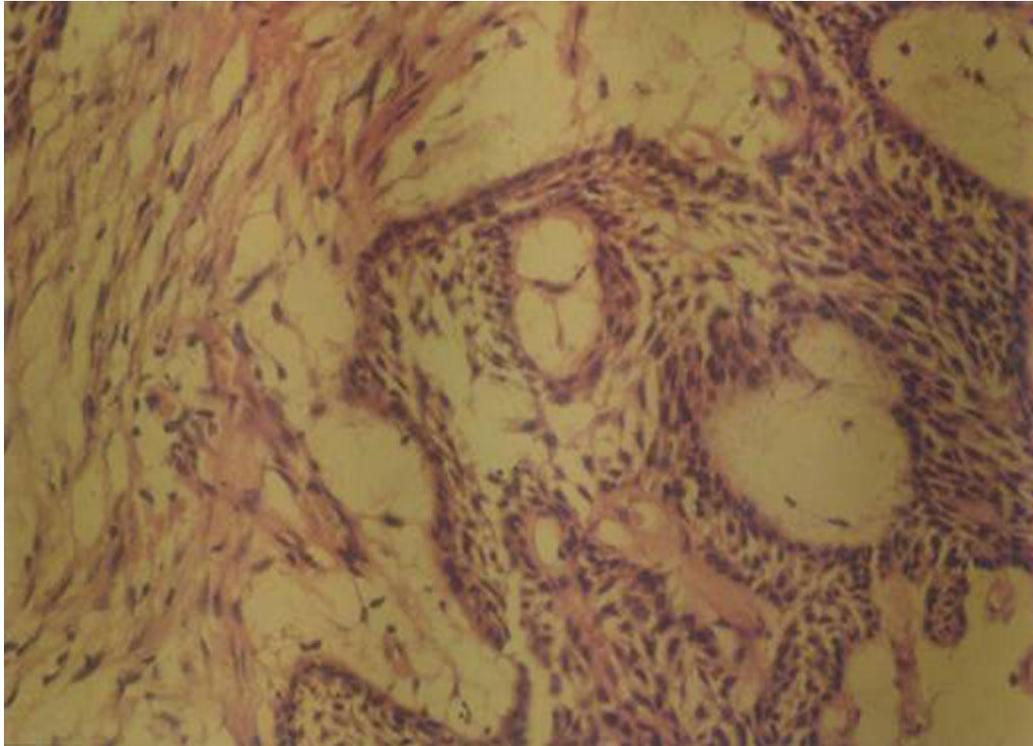


Figure 5: Histopathological view showing presence of abundant fibrous tissue interspersed with ameloblast-like epithelial islands



DISCUSSION:

The term odontoma was first used in 1867 by Paul Broca. He defined the term odontoma as 'tumors formed by the overgrowth of transitory or complete dental tissues' [4]. Odontomas comprise of 22% of the odontogenic tumors occurring in the jaw [5]. Odontomas have no gender predilection and usually occur during the second decade of life [6]. Compound odontomas usually occur in the anterior maxilla more frequently on the right side [7]. The ameloblastic fibro-odontoma (AFO) is defined by WHO as a neoplasm composed of proliferating odontogenic epithelium embedded

in a cellular ectomesenchymal tissue that resembles dental papilla, and with varying degrees of inductive change and dental hard tissue formation [8]. AFO is seen more commonly in males [9]. In our report odontoma was observed in female patient and AFO was seen in male patient. The common site of occurrence of AFO is mandibular posterior region [10]. Similar site of occurrence was observed in our case.

AFO and odonto-ameloblastomas show a great resemblance to common odontomas, especially in the radiographic examination. Therefore, it has been suggested that all

specimens should be subjected to histopathological examination [11].

In both cases the patients presented with similar radiographic features, however histopathological evaluation of the lesion was used to distinguish between odontoma and AFO. The relationship between odontoma and AFO was described by Philipsen et al [12]. They also stated that both these tumors develop along two separate lines, neoplastic and hamartomatous.

CONCLUSION:

We presented two cases with identical radiological features but different histopathological outcome. Our findings suggest the need for careful histopathological review of all surgically excised odontomas, to rule out the presence of tumor tissue.

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