Odontomas - Report of 3 Cases

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Three clinical cases of odontoma were detected in 2 children and 1 adolescent. The tumors were surgically removed. Clinical suspicion was based on facial deformity in one of the cases and on the absence of permanent tooth eruption in the other two. Radiographic evidence of odontoma was confirmed through histological study.

Key Words: odontoma, odontogenic tumor.

Introduction

Odontoma is an odontogenic tumor formed by dental and periodontal structures (enamel, dentin, pulp and cement), which represent 22% of odontogenic facial tumors (McKinney, 1984; Gomel and Seckin, 1989). This irregular mass of hard and soft structure can be of two different forms: composite odontoma, formed by a varied number of denticles of irregular shape and size and complex odontoma which consists of a disorganized combination of enamel, dentin, cement and pulp tissue (Katz, 1989; Wong, 1989). Radiographically, there are two distinct forms: the composite odontoma clearly shows a structure resembling teeth while the complex odontoma appears as a more uniform radiopaque mass (Katz, 1989).

Odontoma is a tumor of unknown etiology and is frequently found associated with a dental germ in development, a supernumerary tooth, or even a primary tooth retained in the arch (Thwaites and Camacho, 1987). It is a slow-growing, limited tumor which is almost always asymptomatic, depending on its localization and size. Odontoma is frequently detected by routine radiographic examination (Thwaites and Camacho, 1987; Gomel and Seckin, 1989). Despite the fact that the tumor is not aggressive and has a limited growth potential (Thwaites and Camacho, 1987), early diagnosis is very important so that complications in dental arch development and occlusion, including aesthetic problems, are avoided (Torreti and Carrel, 1983). Diagnosis is normally made between 6 and 20 years of age and treatment is generally performed between the ages of 11 and 15 years. Odontoma occurs with equal frequency among both males and females and it also occurs equally in the maxilla and mandible.

Several authors believe that ameloblastic fibro-odontomas are an immature form of complex odontoma. However, others consider these two lesions as distinct entities (Hawkins and Sadeghi, 1986).
The objective of this study is to present three cases of odontoma detected at the Pediatric Dental Clinic of the Dental School of the University of Brasilia (Brazil).

Case Report

Case 1

The patient, S.S.C., was a 7 year old, white female. Clinical examination revealed a small facial deformity, with discrete asymmetry caused by an increase in volume in the region corresponding to the upper right incisors and canines. All of the maxillary primary teeth were present in the dental arch with the exception of the left central incisor (probably exfoliated) and the right second molar.

Radiographic examination revealed a large radiopaque mass, apical to the right, maxillary primary incisors, canine and first molar. The radiopacity was similar to dental structures, however, morphologically it was difficult to identify the substitute permanent teeth (Figure 1).

Surgical intervention consisted of the removal of the mineralized anomalous structure with care to respect the permanent teeth which could be identified and which were the central incisor, the canine and the premolar. The mass was composed of a large quantity of denticles (Figure 3) and was typical of a composite odontoma.

Figure 1 - Occlusal radiograph showing radiopacity typical of a localized odontoma in the upper right hemi-arch. (Case 1).
Histologically, this mass confirmed the presence of denticles of poorly structured dental formation and epithelial residue covered by fibrous connective tissue (Figures 3 and 4). Several areas showed ameloblastic proliferation beside the mineralized structures which was similar to irregular dentin (Figure 5).

Case 2

The patient, J.C.C.S., was a 9 year old white male. Clinical examination showed the absence of the maxillary left permanent central incisor. Radiographic examination showed a radiopaque mass at the level of the tooth crown, apparently impeding its eruption (Figure 6).

Surgical intervention consisted of the removal of this radiopaque structure and confirmed the existence of denticles.

Case 3

The patient, W.G.R., was a 15 year old white male. Clinically the upper left permanent central incisor was absent. Radiographic examination showed a mass of
Figure 3 - Denticles with central dentin and surrounding fibrous connective tissue. H.&E. 63X. (Case 1).

Figure 4 - Details of one of the denticles of Figure 3. 160X.
Figure 5 - Area of the odontoma with proliferation of ameloblasts and mineralized structures similar to irregular dentin. H.&E. 320X. (Case 1).

Figure 6 - Periapical radiograph showing a radiopaque mass at the level of the crown of the upper left central incisor. (Case 2).
radiopaque structures similar to teeth, however, of irregular size and shape, suggesting the existence of a composite odontoma in the upper anterior region of the maxilla. The left central incisor showed inclusion and was dislocated to the distal (Figure 7).

Figure 7 - Occlusal radiograph of Case 3. Note the radiopaque structures suggesting the existence of a composite odontoma. The upper left central incisor did not erupt and is dislocated to the distal.

The surgical removal of the anomalous structures confirmed the existence of denticles, characterizing odontoma. Histological study also confirmed a composite odontoma with denticles showing irregularly formed dentin and pulp structure (Figure 8).

Discussion

Three cases with different symptoms were reported. The first caused facial asymmetry due to increased volume and the other two presented teeth which had not erupted at the normal time. All emphasize the importance of early diagnosis and treatment to avoid greater damage in the development of occlusion of the permanent dentition.

Two of the cases were submitted to histological study using sections by decalcification. In the first case, the presence of a large number of denticles of different sizes
and shapes and the evidence of an area containing a disorganized combination of dentin and odontogenic epithelial structures led to the diagnosis of an odontoma, not only composite, as verified after surgical removal. It was an odontoma which may be more appropriately called "complex composite".

Case 3 clearly showed the structure of a composite odontoma, composed of a regular quantity of denticles.

These cases confirm that odontomas are circumscribed, encapsulated tumors which can be easily removed by conservative surgery.

References


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