Incidental Finding of an Odontome Attached with Primary Teeth: A Rare Case Report

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Abstract

Odontomes are hamartomatous developmental malformation of dental tissues which causes disturbances in the eruption of teeth. In general, odontomes occur frequently in permanent dentition and are seldom associated with primary dentition. This case report presents an odontome attached with primary tooth which was incidentally found during routine radiographic diagnosis and it spotlights the significance of early diagnosis and management of odontome to prevent future complications such as retained deciduous teeth and impaction of permanent teeth, malocclusion, etc.

Keywords: Developmental dental anomalies, Impacted teeth, Odontoma (odontome), Primary teeth.

Introduction

Odontomes are developmental anomalies of teeth resulting from the growth of completely differentiated epithelial and mesenchymal cells that give rise to ameloblast and odontoblast. Odontomes are composed of all mature components of dental hard and soft tissue such as enamel, dentin, and pulp tissue. Because of their slow growth and well differentiation, they are generally considered to represent hamartomas rather than true neoplasm.

Paul Broca was the first person to introduce the term “Odontomes” in 1867. He defined the term odontomes as tumors formed by the overgrowth of transitory or complete dental tissues.

The etiology of the odontome is unknown. Nevertheless, it has been suggested that trauma or infection at that site can lead to its origin.

Hitchin suggested that odontomas are either inherited or due to mutant genes, interference with genetic control of postnatal tooth development. Although the etiology of this malformation is enigmatic, it has been related to various pathological conditions, like local trauma, inflammatory and/or infectious process, mature ameloblasts, cell rests of Serres or due to hereditary anomalies (Gardner’s syndrome, Hermann’s syndrome), odontoblastic hyperactivity, alterations in the genetic component responsible for dental development.

Odontomes are usually asymptomatic, discovered during routine radiographic examination when there is delayed eruption of permanent teeth. The odontome shows a slow growth exceeding the tooth size and sometimes it can cause expansion of the cortical bone.

WHO classified odontomes into compound and complex. Compound odontome contains numerous tiny, tooth-like denticles, in a more orderly pattern, whereas complex odontomes present as an amorphous conglomeration of dental tissues consisting of enamel, dentin, cementum, and pulp.

Compound odontomes are usually located in the maxillary anterior region and complex odontomes are usually located in the mandibular region. Predominantly, odontomes occur frequently in permanent dentition and are seldom associated with the primary dentition.

Case Description

An 8-year-old female patient reported to the Department of Pediatric and Preventive Dentistry with the chief complaint of decayed lower right back tooth region with no history of pain. On examination, the caries was deep in relation to 85, so a digital radiograph was advised in 85 region. There was no history of trauma to her oro-facial region. There was no family history of unerupted teeth or hypodontia and no relevant medical history.

Radiographic findings showed the presence of multiple tooth-like structures in the interradicular area of the 85 and succedaneous tooth 45 was present below the radiopaque mass (Fig. 1).

A provisional diagnosis of an odontome was made, and the patient was scheduled for surgical removal of the lesion.

Extraction of 85 was performed under local anesthesia. But on extraction, the odontome came attached with the extracted

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The calcified mass was sent for histopathological analysis immediately.

**Grossing Features**
The size of the odontome was 0.5 × 1 cm², which is hard in consistency and yellowish-white in color seen in the furcation area of the deciduous molar (Figs 2 and 3).

**Histopathology**
The histopathological examination of the ground section image showed dentin in normal tubular pattern, pulp chamber was seen as voids which confirmed the diagnosis of compound odontome (Fig. 4). Postoperative recovery was uneventful. The patient was followed up regularly at 3-month intervals to check the eruption status of the tooth and to check the recurrence of odontome.

**DISCUSSION**
Odontomes are hamartomas that account for 22% of the odontogenic tumors, rarely diagnosed before the second decade of life.¹⁰

Odontomes are asymptomatic, they are usually diagnosed by routine radiographic examination. But the developing odontomes are rarely diagnosed during routine radiographic examination because of the lack of calcification.⁴

The degree of calcification of odontomes in the primary dentition is sometimes less compared to that of permanent teeth and radiographic features are therefore more weakly radiopaque. It is important, therefore, to examine the radiographs carefully.¹⁰

In this case, the odontome was diagnosed incidentally during the radiographic examination of deep caries. Considering the complications associated with the eruption permanent successors due to the presence of odontome attached with primary teeth. Extraction was done.

There are only very few reports in the literature reporting odontomes associated with primary teeth.¹¹,¹² The odontome, in this case, was reported as compound odontome, a common type of odontome associated with primary teeth, but it’s site of occurrence in mandibular primary posterior tooth was unusual. These findings confirm the rarity of this case.
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**Conclusion**
The early diagnosis and treatment of the pathology in this case prevented delayed exfoliation of primary tooth and impaction of its successor bicuspids.

**Clinical Significance**
Pedodontists are the ones who often encounter the problem of impacted teeth and delayed eruption. Timely diagnosis and treatment of odontomes at the right time is requisite to intercept the complications so that it will aid in a better prognosis.

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