Case Report

Erupting complex composite odontoma- A rare dental hamartoma

Prasanna S¹, Ramesh Kumar A², Rajkumar K³

Abstract:

Complex composite odontoma which is considered as agglomerate of all dental tissues are characterized by normal histodifferentiation but abnormal morphodifferentiation producing little or no resemblance to normal tooth form. They are usually asymptomatic but often associated with eruption disturbances. An interesting case of complex odontoma that has erupted into the oral cavity in 10 year old boy is reported here.

Key words: Complex composite odontoma, Erupting odontoma, Odontogenic tumor

Introduction

Odontoma are generally considered as a developmental anomaly which are the most common type of odontogenic tumors and are usually asymptomatic.¹ Paul Broca was the first person who coined the name odontoma in 1867. Broca defined the term as tumors formed by the overgrowth of transitory or complete dental tissue.² Tumors of maxillary and mandibular predominantly odontomas comprising twenty percent of this region and are considered as benign developmental anomalies.³ It can present itself as single and intraosseous lesion in the dental arch with different pattern of tooth structure arrangements.⁴ Odontome are most commonly seen in permanent dentition. They are usually located between the roots of erupted tooth or between deciduous and permanent dentitions with site predominance ranging from anterior maxilla followed by anterior mandible and poster inferior regions.⁵

Etiology of odontoma is mostly caused by numerous pathological conditions like local trauma, process of inflammation and infection, hereditary reasons like Gardner’s syndrome and Hermann’s syndrome. Apart from these etiologies, compound odontoma can be because of persistence of a part of dental lamina.⁶ Histologically they can be composed of varied dental tissues like enamel, dentin, cementum and sometimes pulp.⁷ Based on gross, radiographic and histologic features, odontoma can be classified as Compound and Complex composite odontoma. The compound type is characterised by all dental tissues which arranged in an orderly fashion, as lesion contains many small tooth like structure with enamel, dentin, cementum and pulp similar to architectural arrangement seen in an normal tooth. In complex type, it is a hamartomatous lesion with all dental tissues which can be seen microscopically and are well formed but are arranged in disorderly pattern.⁸
The present case reports about odontoma in a 10 year old boy who desired orthodontic treatment showing an accidental finding of odontoma as a part of clinical examination.

**Case report**

A 10 year old male patient reported to the outpatient department with a chief complaint of forwardly placed tooth for the past 1 year. Patient gives history of noticing forwardly placed front tooth and also gives complaint of dull, continuous pain in the upper and lower right tooth region. Family history reveals that both parents are hypertensive for the past 5 yrs and under medication.

Extra oral examination showed no facial abnormality (Fig 1). On Intra oral examination, inspection of the growth revealed a small hard tissue seen in relation mesial to 16 and distal to 55. Resembles tooth and has similar gingival relationship like tooth (Fig 2). The hard tooth like structure measures approximately 1 x 1 cm, irregular in shape. Colour and texture is similar to natural tooth structure. Followed by palpation of the growth, showed that all inspectory findings of site, size, shape were confirmed.

No pain on percussion and asymptomatic with respect to the tooth. Generalised spacing in between the upper anterior teeth with proclination of the teeth and increased overjet and overbite was also seen and the lips were incompetent.

On radiographic examination, IOPA reveals a radiopaque mass seen in between 55 and 16 and shows no root like structure associated with it. A wide area of radiolucency seen in the periapical region of the radiopaque mass and associated periapical widening (Fig 3). Routine blood investigations were carried out and the patient was posted for extraction (Fig 4).

A single hard tissue specimen was sent in 10% formalin for histopathological diagnosis. The specimen measured 1x1cm in size, irregular to round in shape. It was yellowish white in color.
and showed presence of multiple small nodular root like structure with areas of bony hard and soft in the specimen (Fig 5). On histopathological examination, the decalcified section shows masses of calcified tissue resembling mature dentine enclosing empty spaces presumably filled by enamel (Fig 6,7). A thin layer of cementum is also seen in the periphery (Fig 8). On correlating the clinical, radiographic and histopathological features, the case is diagnosed as Complex composite odontome.

Discussion

Odontomas are usually considered as hamartomas of aborted tooth formation rather than true neoplasms. Generally the odontomes are diagnosed in patients with age less than 40 years of age. With regards to complex odontoma, they are less common when compared to compound odontoma with a ratio of 1:26. In the present case, the patient age was 10 years which was in accordance with the literatures.

In few situations, odontoma show eruption pattern through soft tissues similar to that of a natural tooth eruption as reported by Rumel et al (1980) who first described a case of odontoma eruption into the oral cavity. So far a total of 20 cases has been reported in the literature with such features. However the mechanism behind eruption of odontoma into the oral cavity is not yet proved as it lacks periodontal ligament relationship and no root formation. But the increasing size of odontoma may cause sequestration of the overlying bone leading to occlusal movement or eruption of the odontoma. Eruption at a young age is possible through bone remodeling that might have resulted from the presence of dental follicle. In the present case, we also report a complex odontome erupting through the soft tissues into the oral cavity with normal gingival relations adding one more case to the
literature of odontoma erupting through soft tissues.

Histopathologically, odontomas can be classified as complex and compound composite odontoma. Of these, the complex odontomas are most commonly seen in posterior mandible while the compound odontomas are mostly seen in anterior maxilla. Few reports in the literature also show odontomas in maxillary sinus. In the present case, it is a complex odontoma which is seen in the posterior maxilla, a rare site for a complex odontoma with regards to the above references.

Odontomas comprise varying amount of enamel, pulp tissue and cementum whether it is compound or complex composite odontoma. Santosh Patil (2012) reported a case of complex odontoma with decalcified section showing disorderly arranged mature hard tissues with dentin, cementum and pulp. A clear empty areas representing enamel lost during decalcification was also present. In the present case, the decalcified section showed mass of calcified tissue resembling mature dentin enclosing empty spaces presumably filled by enamel. A thin layer of cementum is also seen in the periphery which was in accordance with Santosh Patil (2012).

Odontomas are usually treated in a conservative manner with normal surgical removal and it has less recurrence rate. Ameloblastic fibroodontomas and odontoameloblastomas have common features with odontoma radiographically, so the specimen should be submitted to oral pathologist for histopathological examination to rule out them. Patient care should cover proper clinical and radiographical follow up of the patient. In present case, the erupted odontoma was extracted and submitted for histopathological examination. The patient is under regular follow up for past 1 year with no recurrence reported.

**Conclusion:**

As odontomas comprise a larger group of tumors affecting the jaws, a proper and extensive knowledge of their characteristic features is required to deliver a proper diagnosis and management. Here we have presented a case of erupting odontoma for its rarity with a brief review of literature.
References


Address of correspondence
Prasanna S, PostGraduate student, Department of Oral and Maxillofacial Pathology, SRM Dental College & Hospital, Chennai.
E-mail: dr.prasanna1oralpath@gmail.com