CASE REPORT

A case of compound odontome associated with an unerupted tooth

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Abstract

Among all the odontogenic tumors, odontomas are the most common occurring type of tooth associated tumor; they are very frequently seen in presence with an unerupted tooth usually a maxillary central incisor, affecting and interfering with the eruption of permanent teeth, in the present reported case. A patient aged 16 years had a swelling in the upper lip which was asymptomatic at the time of examination. A radio-opaque mass of tooth-like structures was seen in the radiographs and the patient was posted for surgical removal under local anesthesia, the specimen was sent for histopathological examination which confirmed the diagnosis of compound odontome, a follow-up was planned for 1-year which showed no recurrence post enucleation.

Keywords: Incisor, odontoma, unerupted tooth

Introduction

Paul broca was the first to term “odontoma” in 1867.[¹] Odontomas are hamartomas of aborted tooth formation. They are generally of two types, one which consist of multiple teeth like structures called the compound odontome and the other which consists of an amorphous mass of calcified tissue called complex odontome.[²] Compound odontome may present as a composition of tiny structures resembling teeth which can be in number from a very few to numerous, microscopically this malformation gives a picture of fibrovascular pulp tissue which is normal in arrangement, surrounded by cementum and dentin, enamel in the root and crown, respectively.[³]

Case Report

A 16-year-old male reported with a complaint of a gap between the upper front teeth and a history of mild swelling above the upper left front teeth from past few months [Figure 1]. The swelling was noticed while brushing; it was asymptomatic and did not increase in size. A thorough clinical and radiological examination which included orthopantomogram and maxillary occlusal radiograph revealed a radio-opaque mass of tooth-like structures with zones of radiolucency within the radio-opaque area above the maxillary central incisors [Figure 2]. All other related anatomical structures revealed no gross abnormality. Based on the history, clinical picture, and radiographic findings, a provisional diagnosis of odontome (compound type) was made.

Figure 1: Intraoral view of the labial swelling
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Compound odontome

arrived at. The case was posted for surgical enucleation under local anesthesia (lignocaine 2% with 1:80,000 adrenaline) [Figure 3] after due informed consent from the patient’s guardian was taken. After surgical removal, the teeth like structures were nine in number varying in different size and shapes [Figure 4]. They were hard in consistency with a white and yellow tinge consistent with the appearance of a tooth-like structure. They were subjected to histopathological examination. After decalcification and ground section were made; microscopic examination revealed discrete tooth-like structures with enamel, dentin and pulp related with each other, the examination also

Discussion

Odontomas usually occur within the first three decades of life, they usually are seen occurring at any location in the jaws in relation to the permanent teeth. Anterior maxillary region

Figure 2: Orthopantomogram and maxillary occlusal radiographs showing cluster of radio-opaque tooth-like structures

Figure 3: Surgical site post enucleation

Figure 4: Gross specimen showing multiple teeth like structures

Figure 5: Ground section showing normal tooth architecture with well-developed enamel, dentin and pulp (x10)

Figure 6: H and E stain showing normal tubular pattern of dentin and the presence of pulp tissue (x10)

showed presence of dentin like structures [Figures 5 and 6]. All the findings confirmed the diagnosis of a compound odontome.
seems to be the most common location for the occurrence of compound odontome; as seen in Figure 1, whereas the complex type of odontomas shows a predilection for posterior mandible followed by anterior maxilla. The incidence of compound odontomas is usually found to be twice as much of the complex type odontome. Odontomas are known to cause retention, impaction of erupting permanent teeth, hence timely removal is warranted for the normal eruption of the succeeding teeth. Various identical lesions can show histological patterns varying from a hamartoma to a neoplasm, the differential diagnosis for compound odontome are ameloblastic fibroma, ameloblastic fibro-odontome and odontoameloblastoma. Ameloblastic fibroma has no hard tissue component, with only soft tissues similar to those found in the immature tooth germ; in ameloblastic fibro-odontomas, there is a soft tissue component, similar to ameloblastic fibroma, with the presence of dentin and enamel which are arranged haphazardly without any particular pattern. Finally, a very rare neoplasm Odonto-ameloblastoma has the features of ameloblastoma and odontoma, including the presence of enamel and dentin. Odontomas are usually treated with surgical excision. With complete enucleation of the lesion, they never recur, and the odontomas have a close association with ameloblastic fibro-odontome, therefore, stressing the need for a routine histopathological examination. Early removal helps in the normal eruption of permanent teeth and help in the formation of a good developing dental arch. The surgical method employed in our paper was a thorough excision of the lesion with adequate curettage of adhered soft tissue on the walls of the bony cavity with primary wound closure.

Conclusions

Our case presented with unique feature of an asymptomatic swelling with no history of pain or delayed eruption of the permanent teeth, the only complaint being of an increasing gap between the upper front teeth, the literature suggests of swelling usually associated with the anterior region, consistent with our case report. Further studies on a series of compound odontomas will help us know the pattern of growth and its effects on adjacent teeth.

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References