Compound Odontoma – A Case Report

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ABSTRACT

Introduction: Odontomas constitute about 22% of all odontogenic tumors of the jaws. They are considered to be hamartomas rather than neoplasms and are composed of the tissues native to teeth i.e. enamel, dentin, cementum and pulp tissue. Odontomas are generally asymptomatic and rarely diagnosed before the second decade of life.

Case report: A male patient of age 19 years came to the department of Orthodontics, with a chief complaint of malaligned upper front teeth. Intraoral examination revealed the presence of the primary teeth 63. Panoramic radiograph and a maxillary occlusal radiograph revealed the presence of multiple small radio opaque teeth like structures in the apical region of 63 and 21. These structures had disrupted eruption of the respective permanent tooth. The odontoma was surgically removed and orthodontic traction was used to correct the position of impacted permanent tooth.

Conclusion: Early diagnosis and absolute management of odontomas is necessary to prevent later craniofacial complications and other developmental problems. Orthodontic treatment may be indicated to correct the malocclusion resulting from impactions due to odontomas.

Keywords: Compound odontoma, orthodontic traction, odontogenic tumour, treatment.

INTRODUCTION

The title odontoma was originally coined by Broca in 1866, who defined it as a tumor formed by overgrowth of complete dental tissue. These odontogenic tumors can be found in any region of the dental arches. Odontomas constitutes about 22% of all odontogenic tumors of the jawbones and are considered to be hamartomas rather than neoplasms as they are composed of the tissues native to teeth i.e. enamel, dentin, cementum and pulp tissue.[1] According to WHO classification of odontogenic tumors (2005), odontomas are classified into two types, compound and complex odontomas. Odontomas can also be classified as central odontoma i.e. inside the bone, peripheral odontoma; which is present in the soft tissue envelope of the tooth-bearing areas of the jaws, and erupted odontoma based on their clinical presentation.[2]

The complex varieties of odontomas are seen less commonly when compared with the compound variety in the ratio 1:2. Most of the odontomas which are located in the anterior maxilla are of the compound variety, while the great majority of odontomas located in the posterior areas of the jaw bones, especially in the mandible, are found to be complex odontomas. Odontomas are usually asymptomatic and are rarely diagnosed before the second decade of life.[3]

The exact etiology of the odontoma is considered to be unknown. However, it has been proposed that trauma and infection at the location of the lesion offers optimal conditions for its appearance. Many a time odontomas are found in conjunction with unerupted/impacted teeth. In general they are not symptomatic, slow growing and rarely exceed the size of a tooth; nevertheless, when large they can cause expansion of the cortical bone. The cuspids, followed by upper central incisors and third molars, are the most frequent teeth impacted by odontomas. Few instances in which odontomas related to missing teeth have been reported. Generally these aberrations are intrabony, but now and again they may erupt into the oral cavity.[3]

Odontomas can also manifest as part of syndromes, like Gardner syndrome, familial colonic adenomatosis, Gorlin syndrome, Tangier disease or Hermann syndrome. The differential diagnosis should be established with ameloblastic fibroma, ameloblastic fibro-odontoma and odontoameloblastoma.[4]

CASE REPORT

A male patient of age 19 years came to the department of Orthodontics, with a chief complaint of malaligned upper front teeth (Figure-1). The clinical history of the patient was taken in detail to rule out any associated systemic pathology.

Intraoral examination of the dental arches showed the retention of the primary teeth 63. A panoramic radiograph and a maxillary occlusal radiograph (Figure-2) were obtained, which revealed the presence of multiple small radio opaque teeth like structures in the apical region of 63 and 21. These structures had disrupted eruption of the respective permanent tooth. These tooth-like structures were carefully excised, as well as tooth 63, under local anesthesia, without disturbing the un-erupted tooth (Figure-3). The impacted teeth 22 had an orthodontic device for traction attached during the operation. Specimens were then sent for histopathological examination which confirmed the diagnosis of compound odontoma. The patient was regularly examined, and two months after surgery an intra-oral periapical radiograph (Figure-4) was taken to view eruption of 22, which was found to be already in a more occlusal position.

DISCUSSION

Odontomas are generally asymptomatic, comparatively common odontogenic lesions, which are very rarely diagnosed before the second decade of life. Odontomas many a time leads to impactions and delayed eruption of permanent teeth.[5,6] The treatment according to published literature is surgical removal with complete excision of any affiliated soft tissues, since the

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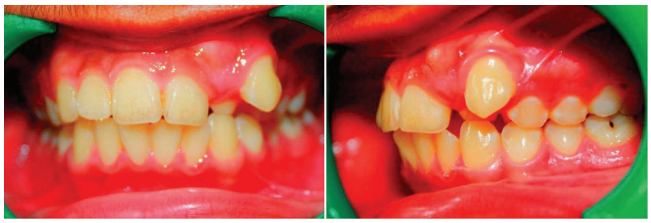

Figure-1: pretreatment intraoral photograph

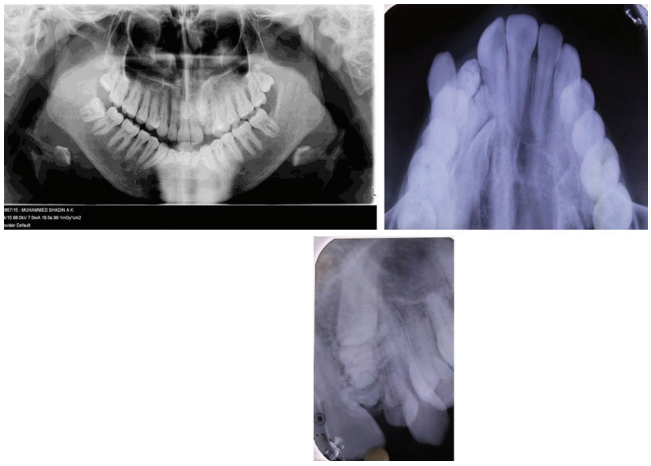

Figure-2: Pretreatment panoramic, occlusal and intra-oral perapical radiograph

Figure-3: The surgical site after removal of odontoma,ligature wire extending from bonded bracket on the impacted teeth 22, Excised specimen showing a lot of tooth-like structures.

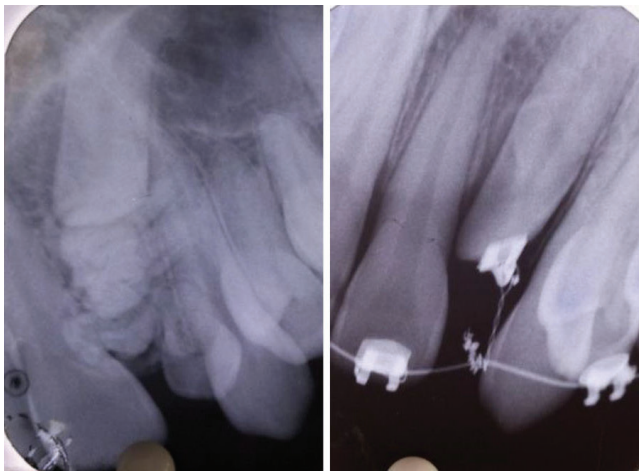

Figure-4: comparison between positions of 22 after 2 months

odontoma carries the risk of interfering with eruption of the permanent tooth, displacement of the adjacent teeth and give rise to dentigerous cysts.[4] Conservative surgical excision is accepted as the treatment of choice. Complex and compound odontomas are known to be well encapsulated and are easily enucleated from the surrounding bone tissue. Orthodontic treatment is almost always indicated to correct the malocclusion.[2] The case presented in this article presented with a large odontoma causing impaction of a permanent tooth (maxillary lateral incisor). Delayed diagnosis of the lesion and complete root formation of the unerupted upper lateral incisor, made it mandatory to use orthodontic traction of the affected tooth in order to guide it to the correct position in the dental arch. This treatment approach is recommended by Bengston et al.[7] and Oliver and Hodges.[8]

CONCLUSION

The diagnosis of odontomas is casually established in the course of routine X-ray studies. But the odontomas, compound and complex must be examined microscopically, to establish a definitive diagnosis. Early diagnosis and absolute management of odontomas is necessary to prevent later craniofacial complications and other developmental problems. Historical evidence, Clinical know-how and scientific dental literature proposes individualized radiographic examination of all pediatric patients, who presents with a clinical picture of delay in permanent tooth eruption or deciduous tooth displacement with or without a history of dental trauma. Prompt and definitive diagnosis of odontomas allows the clinician and the patient to adopt a less complex and economical treatment and ensures improved prognosis.

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