



Multidisciplinary Management of Odontoma in Mixed Dentition- A Case Report

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Received: April 06, 2022

Published: May 05, 2022

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Abstract

Most of the dental anomalies are accidentally discovered either during radiography or due to presentation of any signs or symptoms. Odontoma are symptomatic and described as the commonest type of odontogenic tumors. The case presented is of an 8-year-old girl presented with missing permanent maxillary right and left maxillary central incisor and a swelling wrt permanent maxillary right central incisor which was provisionally diagnosed as odontoma radiographically and later confirmed histopathologically. The odontoma was causing the impaction of tooth 21. The treatment included surgical removal of odontoma then tooth 21 was orthodontically corrected followed by prosthetic rehabilitation of tooth 11.

Keywords: Odontomas; Unerupted Tooth; Odontogenic Tumor

Introduction

Odontoma constitute 22% of all odontogenic tumors and are of epithelial and mesenchymal origin. They include enamel, dentin, cementum and pulpal tissue and hence are considered benign tumors of odontogenic origin. This mixed odontogenic tumor is more commonly presented in children and adolescents [1].

Odontomas affect males (59%) quite the females (41%) [2]. Commonest location of compound odontomas is within the anterior region of the maxilla, while complex odontoma are majorly seen within the posterior areas especially within the mandible [3]. Three sorts of odontomas are recognized consistent with literature clinically: Intraosseous (central) odontoma, extraosseous (peripheral) odontoma, and erupted odontoma. WHO has classified odontomas into complex and compound odontomas [4].

The term 'odontoma' was coined by Paul Broca in 1867. He defined odontoma as a tumour of complete dental tissue [4]. The etiology of odontoma may include local traumas or infections. Radiographically, odontomas appear as dense radiopaque lesions with prominent external margins surrounded by radiolucency [3].

Most of the odontomes are asymptomatic, although occasionally signs and symptoms regarding their presence do occur eg. unerupted or impacted teeth, retained deciduous teeth, swelling, and evidence of infection [5].

Case

An 8 year old girl came to the pedodontics department with the chief complain of unerupted upper front teeth. On clinical examination unerupted permanent left and right maxillary central incisor were seen and increased volume therein region (Figure 1). An odontoma like lesion was noted wrt permanent right maxillary central incisor on Radiographic examination (Clark's and Occlusal Technique) (Figure 2). The lesion caused the impacted position of permanent maxillary left central incisor. A multidisciplinary approach was planned for this case. When the odontoma was surgically removed a calcified small structure looking like teeth was found in it, as was anticipated from the intraoral periapical radiograph (Figure 3). The patient was treated under local anesthesia, without none premedication. Diagnosis of compound odontoma was confirmed after histopathologic examination (Figure 4). The impacted permanent maxillary left central incisor tooth showed

a fully formed root with open apex, spontaneous eruption was seen after 6 months but it was tilted so it was aligned by placing an orthodontic bracket in order to guide the impacted tooth into normal position (Figure 5 and Figure 6). So, brackets were bonded to the labial surface of the crown of maxillary anterior teeth. After the soft tissues were healed, traction of the unerupted permanent maxillary left central incisor was initiated. After another 6 months, the permanent maxillary left central incisor was finally aligned to correct position into the dental arch. The palatal bar with tooth attached was placed to rehabilitate tooth 11 until growth is complete (Figure 7).



Figure 1: Swelling wrt right anterior maxillary region and Unerupted permanent right and left maxillary central incisor.



Figure 4: Surgical removal of compound odontoma wrt permanent right maxillary central incisor.



Figure 5: Placement of orthodontic brackets for alignment of teeth.

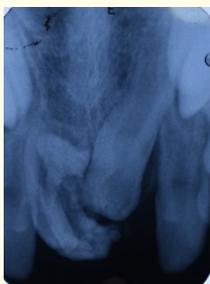


Figure 2: IOPA showing odontoma like lesion wrt permanent right maxillary central incisor.

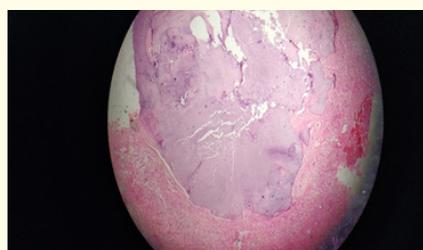


Figure 6: Histologically section shows the presence of eosinophilic tubular structure resembling dentition surrounding the pulpal space interspersed with dense collagen fibres, endothelial lined blood vessels and few inflammatory cells chiefly composed of lymphocytes.



Figure 3: IOPA after odontoma removal.



Figure 7: Esthetic rehabilitation done wrt missing right permanent maxillary central incisor.

Discussion

The occurrence of odontoma ranges between 9% and 37%. Rumel et al elucidate the erupted odontoma. Trauma, infection, odontoblastic hypersensitivity, hereditary (gardner syndrome, hermann's syndrome) and alteration in genetic component are various causative factors for odontoma [1].

The odontogenic tumours are categorized as compound and complex odontomas by WHO in 2005. Clinically, they're classified as intraosseous (central), peripheral (soft tissue or extraosseous), and erupted odontomas [6]. Gabell, et al. in 1914 gave the classification of odontoma according to their developmental origin as: epithelial, composite (epithelial and mesodermal) and connective tissue. Odontoma are classified by Thoma and Goldman as follows (1946): 1. Geminated composite odontomes-two or more, more or less well-developed teeth fused together. 2. Compound composite odontomes-made from more or less rudimentary teeth. 3. Complex composite odontomes-calcified structure, which bears no great resemblance to the normal anatomical arrangement of dental tissues. 4. Dilated odontomes-the crown or root part of the tooth shows marked enlargement. 5. Cystic odontomes-an odontome that is normally encapsulated by fibrous connective tissue in a very cyst or in an exceedingly wall of cyst [1].

The most common complain of patient with odontoma is of missing tooth, unerupted tooth or malaligned teeth thus affecting the patients aesthetics [7] They're commonly detected during first twenty years of life although most of the time they don't show any signs or symptoms [8]. Differential diagnosis includes hypercementosis, condensing osteitis, periapical osteosclerosis, ameloblastic fibroodontoma, ameloblastic fibroma and ontoam- eloblastoma [8].

The preferred treatment for odontoma is surgical excision then sent for histopathological examination for confirmation of the diagnosis. If detected early the treatment process becomes more cpost effective, the prognosis becomes better, relapse chances decreases, the incidence of adjacent tooth to stay vital increases [3].

In the present case, the permanent maxillary left central incisor was impacted due to the presence of odontome. Various authors including Shetty RM et al, Baxi S et al and Baldhawa RS et al also found the impacted maxillary central incisor due to the presence of odontoma [8]. The odontoma was surgically removed followed by orthodontic treatment of tooth 21 after its spontaneous eruption. Then easthetic rehabilitation of tooth 11 was done until growth is completed.

Conclusion

A proper clinical and radiographic examination should be performed for children presenting with signs of delayed eruption, missing tooth or tooth displacement with or without history of trauma. If odontoma is diagnosed early the treatment will be cost effective, better prognosis, relapse of lesion and displacement of tooth can be avoided.

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