

## Case Report

### **Infected Large Complex Odontoma Associated With Impacted Mandibular Third Molar: A Rare Case Report**

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**Abstract:** The term odontoma refers to tumors of odontogenic origin and is the most common odontogenic tumors. They are considered as developmental anomalies rather than true neoplasm and are commonly discovered during routine radiograph. Odontoma term was coined by Paul Broca in 1867. They are two types of odontoma: compound and complex. Eruption of the odontoma in oral cavity is rare. They are usually asymptomatic. Here we present a rare case of infected large complex odontoma associated with impacted mandibular third molar in a 33 year old male patient with extra oral pus discharge.

**Keywords:** Complex Odontomas, Impacted molar, Infected Odontoma

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#### **INTRODUCTION**

The term 'Odontoma' by definition alone refers to any tumour of odontogenic origin [1]. It is a hamartomatous malformation rather than a neoplasm of unknown etiology. It was first coined by Paul Broca in 1866, which he defined it as a tumor formed by an over growth of complete dental tissue [2]. Histologically the enamel and dentin are formed by the ameloblasts and odontoblasts by well differentiated epithelial and mesenchymal cells; however they fail to undergo morphodifferentiation and thus are laid down in an abnormal pattern. The tumour is composed of more than one type of tissue such as enamel, dentin, pulp and cementum and hence they are called as composite odontomas. They are detected in 2<sup>nd</sup> and 3<sup>rd</sup> decades of life, but if they occur in children they are usually associated with permanent dentition and prevent eruption of the associated tooth. The WHO (2005) classified these tumours as compound and complex depending upon their anatomical resemblance with the normal dentition wherein the former shows superficial anatomic resemblance to normal teeth and the latter bear no morphogenic resemblance to even rudimentary teeth. Based on the clinical presentation of odontomas, they are classified as intraosseous (central), peripheral (soft tissue or extraosseous) and erupted [3]. Complex odontomas are usually located in the mandible, in the zone of premolars and molars, while composite

odontomas are more often found in the upper maxilla, in the zone of incisors and canines. Odontomas can also manifest as part of syndromes, such as basal cell nevus syndrome, Gardner syndrome, familial colonic adenomatosis, Tangier disease or Hermann syndrome etc [13].

Complex odontomas are slow growing expanding lesions that are usually diagnosed in the second decade of life [4]. The lesions are invariably asymptomatic unless infected or erupted in the oral cavity and are usually discovered on routine radiographic examination [5]. Here we present the surgical management of complex odontome associated with multiple extra oral draining sinuses in relation to an impacted mandibular third molar.

#### **CASE REPORT**

A 33 years old male patient, reported to us with the chief complain of pain and pus discharge on the right side of mandible since 1 year. Patient gave a history of hard swelling which he noticed 3 years back in the right lower back tooth region. The swelling gradually progressed along with extra oral pus discharge for which he had consulted a dentist and underwent extraction of infected mobile teeth in the same quadrant. As the symptoms did not subside he again went to the dentist & was prescribed antibiotics,

with that his symptoms subsided temporarily. On Extraoral examination there was a draining sinus in the right side of cheek region and in the submandibular region with purulent discharge. Intraoral examination revealed yellowish mass of about 5 mm in diameter (fig.1). 48 and 47 were missing. There was expansion of lingual and buccal cortical plate in the right posterior quadrant of mandible.



**Fig 1: Intra oral picture**

The panoramic radiograph revealed a large irregular radiopaque mass extending distal to first molar upto the retro molar region posteriorly and superiorly it extended beyond alveolar crest (fig.2). The lesion was surrounded by a distinct radiolucent rim. Written informed consent was obtained from the patient. The surgical procedure was carried out under GA. The lesion was treated by surgical enucleation. A linear incision extending from the distal surface of the first molar upto the anterior border of ramus was placed and a mucoperiosteal flap reflected (fig.3). The bone overlying the lesion was removed and the lesion was curetted out in toto (fig.6). The lesion measured approximately 4.5x2.5 cm and was associated with a tooth (fig.4&5). The anatomy of the tooth was similar to lower third molar. Curettage was done carefully to avoid pathological fracture of the mandible and damage to the inferior alveolar and lingual nerve. De-epithelialization of fistula was done in the cheek region and submandibular region. Primary closure was done intraorally using 3-0 vicryl and extra orally using 3-0 prolene. Histopathology report confirmed the lesion to be a complex odontoma.



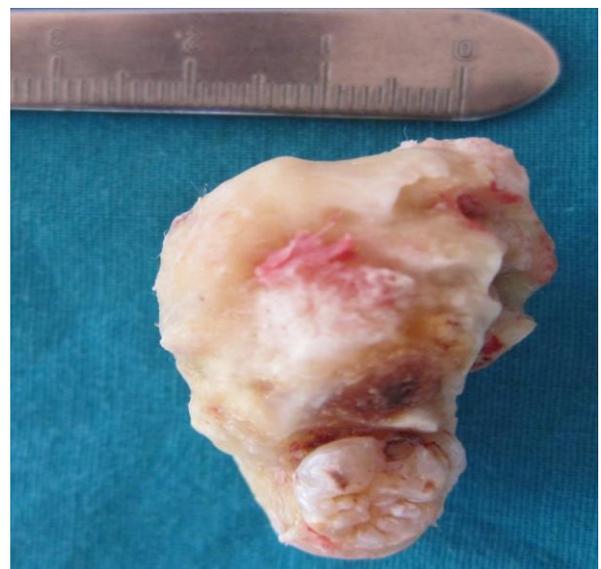
**Fig 2: Pre op OPG**



**Fig 3: Lesion after reflection**



**Fig 4: Lesion in toto**



**Fig 5: Odontoma with tooth.**



**Fig 6: Post op OPG**

## DISCUSSION

Hitchinson suggested that the odontomas are either due to a mutant gene or interference, possibly postnatal with the genetic control of tooth development<sup>6</sup>. Literature has shown that odontomas sometimes have a tendency to erupt in the oral cavity [7]. The first case of erupted odontoma was reported in 1980 by Rumel *et al.*; [8]. They have a predilection on the right side of the jaw. They are usually asymptomatic although at times their signs and symptoms relating to their presence do occur, this includes unerupted or impacted tooth [9] retained deciduous teeth, swelling and evidence of infection, displacement of teeth and malocclusion [10]. Radiologically, odontomas manifest as a dense radiopaque lesion surrounded by a thin radio transparent halo.

The tendency towards relapse is greater when the lesion is removed in the noncalcified tissue stage [11]. There is no general agreement on the best treatment modality, it may be case specific. In our case the associated third molar also had to be extracted as it was attached to the odontoma and the infection could have possibly spread from this tooth, as it was not embedded within the mandible rather exposed to the oral cavity.

Complex odontomas usually have a typical radiographic appearance because of their solid opacification in relation to impacted tooth [12]. Since they do not recur, treatment is by surgical removal when small they shell out easily owing to the presence of a surrounding capsule [14]. However, when large and irregular in outline they must be sectioned and removed, otherwise it may result in fracture of the associated jaw. Two stage surgical approaches for large complex odontomas has also been reported [14]. After Excision of large odontomes the residual defect may have to be reconstructed using suitable autogenous grafts [15]. In our case we could remove it in toto as there was no much bone coverage above the odontoma.

## CONCLUSION

Odontomas are benign neoplasms of odontogenic origin frequently seen in the oral cavity. They have slow growth potential with scanty recurrences and are best treated with surgical excision. Diagnosis should be confirmed clinically, radiologically

and histologically. In our case radiographic appearance of odontoma is almost diagnostic even though clinically it was suggestive of infection from lower molars. The odontome along with the 3<sup>rd</sup> molar could be easily removed without any post-operative complications.

**Conflict of interest:** None

## REFERENCES

1. Satish V, Prabhudevi M.C, Sharma R; Odontome a brief over review International Journal. of clinical Pediatric Dentistry 2011; 4(3):177-185.
2. Raj K, Shetty SB, Joy A, Shetty RN, Kaikure M; Compound Odontoma: A Case Report April 2015 International Journal of Advanced Health Sciences 2015; 1(12).
3. Saxena Vasu Siddhartha, Karjodkar Freny Complex Odontome: A Review & Case Report International Journal of Advanced Health Sciences 2014; 1(3):21.
4. Spini P.H.R, Spini T.H, Servato J.P.S, Faria P.R.D, Cardoso S.V, Loyola AM; Giant Complex Odontoma of the Anterior Mandible: Report of Case with Long Follow up Braz Dent J 2012; 23(5): 597-600.
5. Visioli A.R.C, e Silva C.D.O, Marson FC, Takeshita W.M; "Giant Complex Odontoma in Maxillary Sinus." Annals of Maxillofacial Surgery 5.1 (2015): 123–126.
6. Govindrajana S, Muruganandhan J, Shamsudeen S, Kumar N, Ramasamy M, Prasad S; Complex Composite Odontoma with Characteristic Histology Case Reports in Dentistry 2013.
7. Sunira Chandra, Anjana Bagewadi Kunal Sah; Compound composite Odontome erupting into the oral cavity: A rare entity. Contemp clin dent 2010; 1(2): 123-126.
8. Ramel A, Freitas A, Birmar EG, Tannous LA, Chacon PTZ, Boraks S; Erupted complex odontoma: report of a case. Dentomaxillofac Radiol 1980; 9:5-9.
9. Hisatomi M, Asaumi J.I, Konouchi H, Honda Y, Wakasa T, Kishi K; A case of complex odontoma associated with an impacted lower deciduous second molar and analysis of the 107 odontomas. Oral Diseases 2002; 8(2): 100-105.
10. Shetty RM, Halawar S, Reddy H, Rath S, Shetty S, Deoghare A; Complex Odontome associated with Maxillary Impacted Permanent Central Incisor: A Case Report Int J Clin Pediatr Dent.2013; 6(1):58-61.
11. Vasudevan V, Manjunath V, Bavle R.M; Large erupted complex odontoma Journal of Indian Academy of Oral Medicine and Radiology 2009; 21(2):92.
12. Sridevi K, Malathi S, Rani P.J, Tanwar R, Vinod V.C, Shailaja S *et al.*; Odontoma: report of four cases and review of literature. J Indian Aca Oral Med Radiol 2013; 25(2): 145-149.

13. Meetkamal k; Odontoma With Non- Syndrome Multiple Supplemental Supernumerary Teeth Journal of Clinical and Diagnostic Research. 2011; 5(1):142-145.
14. Croat A.S; Treatment of a Large Complex Odontoma of the Mandible Acta Stomatol Croat, 2005; 39(2): 221, 223.
15. Sreelakshmi N, Kumar SM, Sasidhar R; Removal of Large Complex Odontoma- Closure of Defect with Buccal Pad of Fat. Annals and Essences of Dentistry 2012; 4(2).