

## MANAGEMENT OF COMPOUND ODONTOMA : A CASE REPORT

Dr. Rajib Sikdar\*, Dr. Supreet Shirolkar\*, Dr. Avik Narayan Chatterjee\*\*  
Dr. Raju Biswas\*\*, Dr. Soumen Pal\*\*\*, Dr. Subir Sarkar\*\*\*\*

### ABSTRACT

Odontoma is a developmental odontogenic tumor arising from completely differentiated ameloblast and odontoblast forming epithelial and mesenchymal cells. Odontomas are asymptomatic tumor which is classified into three different groups. Routine radiographic examination often revealed their presence in the jaw and surgical removal being its main mode of treatment. Compound odontoma is most common and may cause hindrance in the eruption of permanent teeth. This paper describes a case of a compound odontoma in anterior maxilla of a 10 year old child.

### KEY WORDS

**Odontoma, Compound Odontoma, Impaction**

### ABOUT THE AUTHORS

\*Post graduate trainee, 2nd Year,

\*\*Post graduate trainee, 3rd Year

\*\*\*Assistant Professor

\*\*\*\*Professor and Head of Department

Department of Pedodontics and Preventive Dentistry

Dr. R. Ahmed Dental College & Hospital, Kolkata

### CORRESPONDING AUTHOR

**Dr. Rajib Sikdar**

Post Graduate Trainee, 2nd Year

Department of Pedodontics and Preventive Dentistry

Dr. R. Ahmed Dental College & Hospital, Kolkata

e-mail id :rajibmanutd@gmail.com

### INTRODUCTION

Odontoma a developmental hamartomas malformation arising from the odontogenic tissue.<sup>1</sup> It is derived from the completely differentiated odontogenic epithelial and mesenchymal cells from which ameloblasts and odontoblasts developed. But variable amounts of enamel and dentin were laid down in an abnormal pattern because the organization of odontogenic cells failed to reach the normal pattern of morphodifferentiation.<sup>2</sup> Paul Broca in 1867 coined the term "Odontoma".<sup>3</sup> It is an asymptomatic, non-aggressive tumor of odontogenic origin which shows no gender predilection. Generally odontomas are discovered during routine radiographic examination during investigation of missing permanent teeth in the jaw.<sup>4</sup> Sometimes, if odontoma is large, it may cause facial asymmetry.<sup>5</sup> Gabell, James & Payne in 1914 classified odontoma according to their origin: a) Epithelial b) Composite (Epithelial & Mesodermal) and C) Connective tissue type.<sup>3</sup> Most commonly used classification given by WHO in 2005<sup>6</sup> :-

**1) Complex :-** It is a conglomerate solid mass of enamel and dentin, with no anatomic resemblance with a tooth, surrounded by a narrow radiolucent zone.

**2) Compound :-** Multiple tooth like radio-opaque structures of varying size and shape surround by a radiolucent zone.

**3) Ameloblastic Fibro-odontoma :-** A tumor with the general features of an ameloblastic fibroma but it also contains enamel and dentin.

This case report summarizes a case of compound odontoma in anterior maxilla in a 10 year old child with impacted permanent incisors reported in the department of Pedodontics and Preventive dentistry of Dr. R. Ahmed dental college & Hospital.

### CASE REPORT

A 10 years old male child reported to Dept. Of Pedodontics And Preventive Dentistry of Dr. R. Ahmed Dental College & Hospital with chief complain of unerupted permanent teeth in the upper



**Fig 1**



**Fig 2**



**Fig 3**



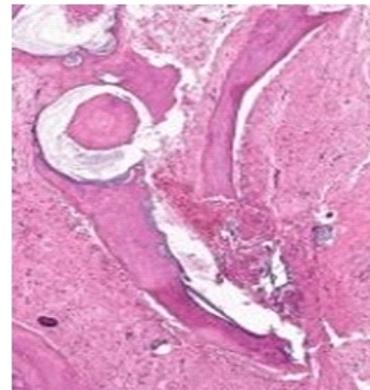
**Fig 4**



**Fig 5**



**Fig 6**



**Fig 7**

anterior region. In clinical examination it was found that 51,52 is still retained in the oral cavity (Fig :1). No swelling or tenderness was present on percussion. 21& 22 erupted in its place in the oral cavity within 7 years of age. As a routine radiographic examination (Orthopantomogram) revealed presence of multiple small radio-opaque tooth like structure present between primary incisors (51 &52) and permanent incisors (11 & 12). Presence of this radio-opaque mass eventually blocking the eruption of permanent incisors. Root of the incisors also not completely formed.

Presence of small tooth-like structure in the anterior maxillary region blocking the path of eruption of permanent incisors (11 & 12) suggestive

of compound odontoma. So, provisional diagnosis of compound odontoma was concluded and extraction of deciduous incisors and surgical removal of odontomas was planned. Further investigation of CBCT of face with 3D reconstruction was done to confirm the diagnosis and routine blood test was done before surgery(Fig :2 & 3).

After surgery 10 tooth like structures, most likely compound odontoma, were removed and sent for his to pathological analysis. Wound was closed with 3-0 silk suture and follow-up was done after 7 days( Fig : 4, 5 & 6 ). Histopathological analysis confirmed the provisional diagnosis of compound odontoma (Fig : 7).

## DISCUSSION

Odontoma is one of the most common odontogenic tumor comprising 22% of all odontogenic tumor.<sup>7</sup> Compound odontoma is generally found in maxillary anterior region<sup>2</sup> and complex odontoma in mandibular posterior region.<sup>8</sup> Odontoma can be found in any age but most commonly discovered in first two decades of life.<sup>4</sup> Among all odontomas, 67% found in maxilla and 33% in mandible with right side of the jaw being more common than left.<sup>2</sup>

Odontomas are generally asymptomatic tumor, remain unnoticed until it is accidentally found during routine radiographic investigation<sup>4</sup>. But most of the time odontoma can lead to malpositioning, deviation of path of eruption, delayed eruption or impaction of adjacent permanent tooth.<sup>7</sup> Etiology of odontoma is not clear but hereditary, odontoblastic hyperactivity, various syndromes like Gardner's syndrome or signal difficulty of genetic control of tooth formation may be the reason.<sup>7,8</sup> Odontomas have very high success rate after surgery with very little probability of recurrence. It is very unusual that odontomas became symptomatic and very rarely delayed diagnosis of odontoma can lead to tooth loss, cystic changes, bone expansion etc.<sup>9</sup>

Line of treatment of odontoma comprises of early diagnosis by radiographic examination during evaluation of unerupted or delayed erupted permanent tooth followed by surgical removal of odontoma. After removal of odontoma, we generally wait for 3 months for eruption of impacted permanent tooth. If tooth fails to erupt surgical exposure of impacted tooth with or without orthodontic traction is required. During surgery proximity to the adjacent important structure should be kept in mind to prevent injury.<sup>10</sup>

## CONCLUSION

Odontoma are asymptomatic, non-aggressive, odontogenic developmental tumor routinely discovered during radiographic investigation of unerupted permanent tooth. After radiographic and

clinical examination, surgical removal of odontoma leads to good prognosis and eventual eruption of impacted tooth.

## REFERENCES

- 1) Santosh BS, Anuradha V, et al. Erupting complex odontoma: Coronal to impacted second molar associated with dentigerous cyst. *J Oral Health Comm Dent* 2011;5(2):100–102
- 2) Shafer GW., Hine MK., Levy BM., A textbook of oral pathology. In : Rajendran R, editor. 4th ed. US Philadelphia: WB Saunders; 1983. Pp. 308-311
- 3) Patil S, Rahman F, et al. Odontomas: review of literature and report of a case. *J Oral Maxillofac Pathol* 2012;3:224–227
- 4) Nelson BL, and Thompson LDR. Compound odontoma. *Head Neck Pathol* 2010 Jun;4(4):290–291. DOI: 10.1007/s12105-010-0186-2.
- 5) Ragalli F. Odontogenic tumors. In: Barwes L, Ed. *Surgical Pathology of the Head and Neck*. 3rd ed. New York: Informa Healthcare 2007; 5: pp. 1202-37
- 6) Tomizawa M., Otsuka Y., et al. Clinical observations of odontomas in Japanese children: 39 cases including one recurrent case. *Int J Paediatr Dent*. 2005;;15::37–43.. doi: 10.1111/j.1365-263X.2005.00607.x.
- 7) Kodali RM., Venkat Suresh B., et al. An unusual complex odontoma. *J Maxillofac Oral Surg*. 2010;;9::314–317. doi: 10.1007/s12663-010-0085-9
- 8) Sudarshan R, Annigeri RG, Vijayabala GS. Periapical complex odontome: A rare case report. *Int J Adv Biotechnol Res* 2012; 3: 610-61.
- 9) Paolo B, Emanuele Z, Fabio R, Cesare G. Complex and compound odontomas. *J Craniofac Surg*. 2012;23:685–688.
- 10) Praetorius F, Piattelli A. Odontogenic tumours. In: Barnes L, Evenson JW, Reichart PA, Sindransky D, editors. *WHO classification of tumours Pathology & genetics Head and neck tumours*. Lyon, France: IARC Press; 2005. pp. 310–311.