

## Management of An Erupting Large Maxillary Complex Odontoma – Report of An Unusual Case

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**Abstract:** Odontoma is the most common benign tumour comprising of about 22% of all odontogenic tumour. Debate still continues of it being a hamartomatous lesion or benign tumour. The most common site of its occurrence is anterior maxilla and posterior mandible. Odontoma in maxillary posterior region has been sparsely reported. Surgery is the treatment of choice with low recurrence rate. The present case report highlights the occurrence of this common tumour at an uncommon site which was managed surgically by an intraoral approach. A three year follow-up shows uneventful healing with complete resolution of lesion.

**Keyword:** Complex odontoma, Posterior maxilla, Benign tumour, Surgical management

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Date of Submission: 15 -08-2017

Date of acceptance: 28-08-2017

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### I. Introduction

odontoma is the most common benign tumour that accounts for about 22% of all odontogenic tumours. It is considered to be a hamartomatous growth rather than a neoplasm. The term “odontoma” was first coined by Paul Broca in 1867. [1] WHO defined Odontoma as “a benign odontogenic tumour composed of odontogenic epithelium and odontogenic ectomesenchyme with dental hard tissue formation. [2] The odontoma is characterised by its slow growth and non-aggressive behaviour. [3] It is commonly seen in 2<sup>nd</sup> and 3<sup>rd</sup> decade of life with slight female predilection. Maxillary anterior region and mandibular posterior region are the commonly affected sites. WHO classified it as Complex odontoma that appears as conglomerates of dental hard tissue and compound odontoma that appears as multiple miniature teeth. The latter is twice more common than the former. [2] The pathogenesis is trauma during primary dentition, infection, odontoblastic hyperactivity, genetic alteration and hereditary anomalies such as Gardner’s syndrome, Hermann syndrome and basal cell nevus syndrome. [1] Odontoma is invariably asymptomatic and are diagnosed during routine radiographic examination. They are generally associated with delayed tooth eruption and impacted tooth. The treatment involves surgical excision of entire lesion with extraction of impacted teeth. The prognosis is fair due to its low recurrence rate. [1]

### II. Case Report

A 18 year old male patient presented with the history of slowly progressive asymptomatic swelling in upper right side of jaw since 3 years. Patient reported that the swelling was small 3 years back and has gradually increased to present size causing facial disfigurement. On examination, extra oral swelling was seen on right cheek extending supero-inferiorly from infraorbital margin to level of ala of nose and antero-posteriorly from ala of nose to level of outer canthus of right eye of size 5x4 cms approximately, roughly oval, smooth surface, hard in consistency and non-tender. Intra orally a diffuse swelling was seen in the region of upper right first and second molar of size 4x3 cms approximately, extending from right premolar to retro tuberosity region, roughly oval, smooth surface, diffuse borders, pink in colour with normal appearing overlying mucosa. A yellowish hard

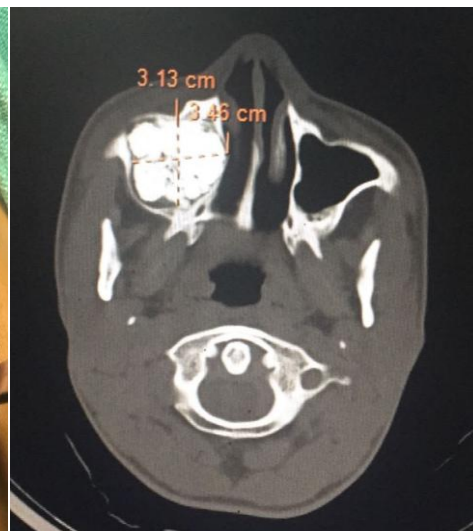
mass was seen in the same region. On palpation, the swelling was hard, non-tender obliterating the buccal vestibule.(Fig1)A single right submandibular lymph node was palpable of size 1x0.5cms approximately, roughly oval, mobile, firm and non-tender in nature.

Orthopantomogram (OPG) and computed tomography (CT)was taken showed a single large well-defined dense radiopaque mass in right maxillary posterior region involving the maxillary sinus with distinct radiolucent halo surrounding the mass alongwithmultiple embedded teeth within it. The greatest dimension of mass on axial cut of CTwas found to be 3.13 x 3.46cm. (Fig 2) Surgical excision of lesion was planned on working diagnosis of complex odontoma under general anaesthesia. Preoperative evaluation was performed and patient was taken for surgery. A intraoral crevicular incision was given with anterior releasing incision for adequate flap reflection. The bony mass was exposed.(Fig 3)Ostectomy was performed to facilitate its removal and lesion was retrieved in totofollowed by removal of embedded teeth, curettage of sinus wall and primary closure. (Fig 4) The obtained specimen was sent for histo- pathological examination.(Figure 5) The H & E stained lesional tissue sections revealed presence of disorderly arranged dentin and pulp space. The connective tissue contained fibroblast, collagen fibres and bony trabeculae. All features were suggestive of a Complex odontoma.

The patient was followed for 3 years, the healing was uneventful and complete resolution of lesion was achieved.



**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**

**Figure 1:** Intraoral photograph showing erupting odontoma, **Figure 2:** CT axial cut showing extent and dimensions of lesion, **Figure 3:** Surgical exposure of the lesion, **Figure 4:** Intraoral photograph showing closure, **Figure 5:** Resected specimen showing multiple small irregular unerupted teeth

### III. Discussion

Odontoma are most common benign tumour of jaw. Paul Brocain 1867 first coined the term and defined it as “tumour formed by overgrowth of complete dental tissue”.[2] About 83.9% cases occur before the age of 30 with peak incidence in second decade of life having female predilection (1.5:1), mostly affecting the right side of jaw and permanent dentition. The incidence of complex odontoma is 5-30% and that of compound odontoma is 9-37%. Complex odontoma are generally found in mandibular posterior region (34%) while compound odontoma is found in maxillary anterior region (61%). Rarely odontoma are seen in maxillary posterior region, maxillary sinus, subcondylar region, ramus of mandible, mental foramen, midpalatal region, pituitary region and middle ear. [4] Odontoma are usually associated with unerupted teeth in 10-44% cases and delayed tooth eruption in 74% cases. [3] 7.2% cases are associated with agenesis of permanent teeth. Rumelet alin 1980 reported a first case of erupted odontoma. [5] The case exhibited here is one of the largest complex odontoma reported in literature which was present in maxillary posterior region occupying entire maxillary sinus which is an unusual site of occurrence. Also the tumour was seen to be erupting in oral cavity and was associated with unerupted teeth. Till date only 21 cases of erupted odontoma are reported. The eruption may be due to resorption of alveolar bone, sequestration of overlying bone (remodelling) or reactive growth of capsule. [6]

Odontoma are clinically asymptomatic and are diagnosed incidentally on routine radiographs. It may cause displacement of teeth, resorption of teeth, tooth impaction, devitalization of adjacent teeth along with bone expansion and paresthesia. Secondary infection in odontoma may lead to pus formation and pain. [2] Involvement of maxillary sinus rarely may show signs of sinus congestion. [7,8] Radiographically, it appears as a well-defined radiopaque mass surrounded by a radiolucent halo. Three radiographic stages of odontoma have been described. First stage, radiolucency due to lack of calcification, second stage - partial calcification is seen and in third stage, lesion appears radiopaque with amorphous mass of dental hard tissue surrounded by radiolucent halo. [9] Treatment of choice for odontoma is complete surgical excision by either an intraoral and extraoral approach. Odontoma in maxillary sinus is accessed by a Caldwell-luc approach. In literature, case of large odontoma were removed by lefort I down-fracture. Lefort I down fracture gives wide exposure; bone is not sacrificed and avoids formation of oroantral fistula. [10] Smaller defects are closed by primary closure but larger defects can be closed using local flaps such as palatal flaps, buccal mucosal flap and buccal fat pad. [11] The lesion in the present case was accessed by an intraoral approach as extraoral approach would have left an unaesthetic scar over the face

Histologically, odontoma is composed of dentin, cementum, pulpal tissue and enamel. Enamel may be lost during the decalcification process. Compound odontoma has orderly arrangement of tissue resembling the normal tooth whereas complex odontoma appears as disorderly arranged dental hard tissue. [12] If odontomas are not treated early, it undergoes cystic changes. Association of odontoma with cyst is reported in 27.6% cases. Prognosis of odontoma is favourable due to its low recurrence rate. [11]

#### IV. Conclusion

Odontoma are benign jaw tumour that are generally asymptomatic and are diagnosed as incidentally finding on routine radiographs. They cause impaction of teeth or delayed eruption of tooth, hence must be evaluated when these conditions are present. Treatment recommended for odontoma is surgical removal and regular follow up.

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