



An unusual presentation of compound odontoma: A case report

Surbhi B Juneja; Suwarna Dangore- Khasbage*; Rahul R Bhowate

Sharad Pawar Dental College, DMIMSU, Sawangi (M), Wardha, India

***Corresponding Author(s): Suwarna Dangore-
Khasbage**

Professor, Oral Medicine and Radiology Sharad Pawar
Dental College, DMIMSU, Sawangi (M), Wardha, India
Email: dangore_suwarna@rediffmail.com

Abstract

Odontomas are odontogenic tumors that comprises of enamel, pulp, dentin and cementum. They comprises of two varieties complex and compound. Aetiology of odontoma is multifactorial as stated in literature. Usually odontomas are asymptomatic clinically and diagnosed on routine radiographic imaging. However, they may be associated with missing or impacted teeth or delayed eruption of a tooth. Removal of the lesion surgically is required to prevent further complications such as formation of cysts or delayed tooth eruption. The present case delineate an unusual presentation of the odontoma in a 20 year old male which was removed completely along with the capsule. Patient had reported no complications in a duration of two years follow-up.

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Introduction

Odontomas are nothing but calcified dental tissue forming abnormal mass that are considered hamartomas rather than true neoplasm and they consist of both epithelial and ectomesenchymal components [1]. Paul Brocain was the first to describe odontome in 1867 [2].

Multifactorial etiology is known for odontoma like infection, local trauma, inheritance and genetic mutation [3]. Compound & complex are two different types of odontomes, of which tooth like structure with enamel, dentin, pulp and cementum is seen in compound odontoma while it is present in unorganised manner in complex odontoma [4].

Odontomes are more common in males (59%) compared to females (41%), with more prevalence in 2nd decade of life [5]. With reference to their location, anterior maxilla is the common site for compound odontomas while posterior mandible is for complex odontoma. A case of compound odontoma in mandibular anterior region is reported here.

Case Report

A 20-year-old male patient reported with the complaint of gradually increasing painless growth in anterior region of the mandibular jaw since 4 years. History of trauma, bleeding or pus discharge was not significant. Medical history was also not significant. On extra-oral examination, there was no abnormality detected.

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Figure 1: showing growth in anterior region of the mandible

Intra-oral examination revealed a greyish-black growth firmly attached on labial aspect of lower left central incisor and canine of size 1x1.5cm approx, roughly oval in shape, with irregular surface & distinct margins. On palpation, growth was non-tender and bony hard in consistency. On manipulation, pus-discharge or bleeding was not present. Teeth & gingiva in vicinity detects no abnormality.

On hard tissue examination, normal compliment of permanent teeth was present in both upper & lower arches except mandibular left lateral incisor which was missing. Based on the clinical findings, compound odontoma was given as the clinical diagnosis. The case was then evaluated by taking various radiographs for confirmation of diagnosis and to determine the precise location and extension of the lesion.

Intra-oral radiographs (intra-oral periapical and mandibular anterior occlusal view) showed two well-defined radiopacities, one of approx 3x2cm in mandibular anterior region while another in between central incisor & canine on left side. Orthopantomograph revealed a lesion with uneven radio-opacity in same region having well defined periphery with thin radiolucent rim extending upto the crown portion of central incisor & canine on left side. Radiograph also showed root resorption of central incisor.

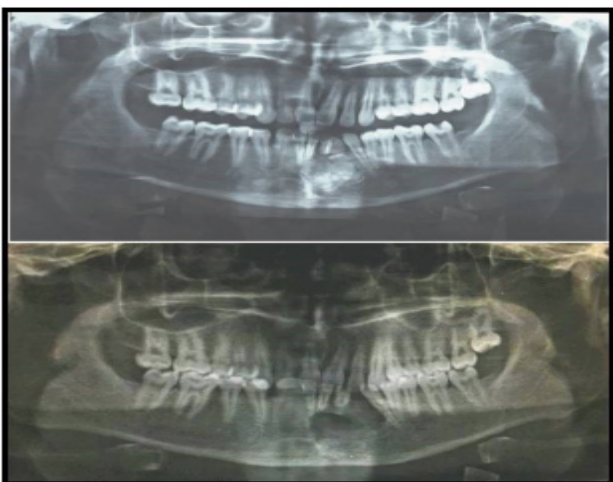


Figure 2: (A) Pre-operative Orthopantomogram showing lesion between mandibular left central incisor and canine with uneven radio-opacity having well defined periphery with thin radiolucent rim. (B) Post-operative Orthopantomogram showing well defined radiolucency suggestive of surgical defect.

Radiographic findings supported the clinical diagnosis, thus based on clinical & radiographic presentation, diagnosis was compound odontoma. Under L. A. and complete aseptic precautions an intraoral access was made to raise the mucoperiosteal flap and using a round surgical bur under constant irrigation with saline solution, the calcified structure was excised into pieces and the fibrous capsule was completely removed, without disturbing the adjacent structures.



Figure 3: Surgical site with raised muco-periosteal flap showing the growth in mandibular anterior region.

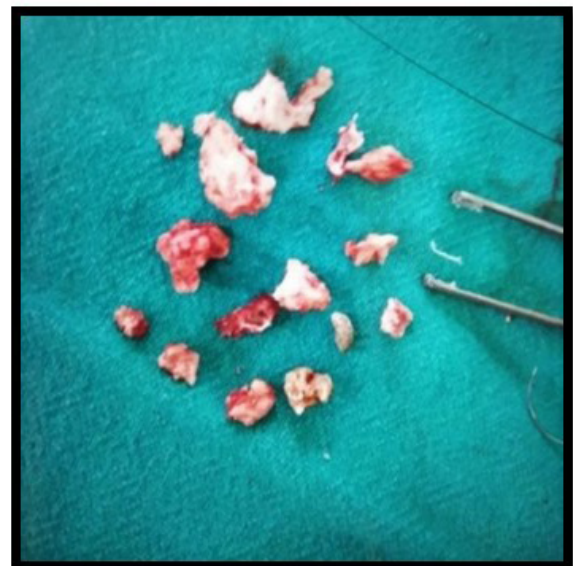


Figure 4: Excised specimen- multiple irregular tooth like structures.

Later the site of surgery was curetted and irrigated with povidone iodine-saline solution and after achieving hemostasis, the flap was approximated and closed chiefly with 3.0 silk sutures & postoperative imaging was done. The specimen was then subjected to histopathological examination. The H&E stained section under 10x showed pulp cavity & dentinal tubules in organized manner which confirmed our diagnosis as compound odontoma.

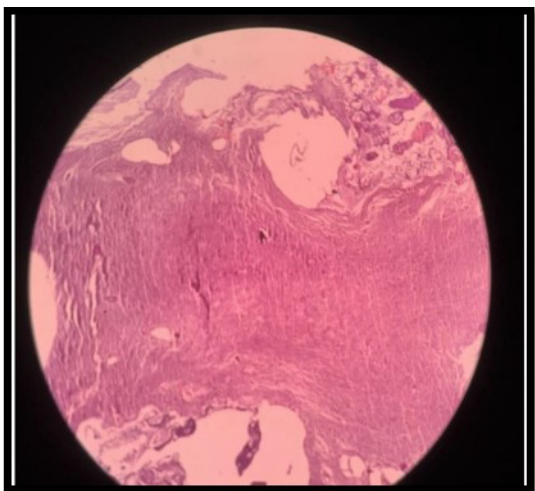


Figure 5: Photomicrograph shows pulp cavity & dentinal tubules in organized manner.

After one week, the sutures were removed and patient was kept on periodic follow-up. After a period of two years, no complications were reported.

Discussion

Odontoma are tumors formed by overgrowth or transitory of complete dental tissue that are characterised by painless slow growth as defined by Broca. Odontomas maybe associated with primary tooth retention or delayed eruption of permanent or primary teeth [6,7]. Compound odontoma is more common than complex odontoma as the incidence of compound odontoma ranges from 9% to 37% while complex ranges between 5% to 30%. Out of all the odontogenic tumors of the jaws, odontomas constitute of about 22 percent [8,9].

Concerning the location, in the present case odontoma was present on the left side of the jaw. On contrary to this, on the right side of the jaw (compound 62%, complex 68%), odontomas occur more frequently [10]. Odontomas are usually asymptomatic, but there can be malpositioning or displacement, aplasia and devitalization of adjoining teeth; mostly associated with an impacted tooth.³ In this case, odontoma was found in the mandible in anterior region, which is an uncommon site of occurrence because it is detected commonly in anterior maxilla.

Histologically, dentin, cementum & pulpal tissue can be seen in an odontoma while enamel is lost during the process of decalcification so that is not seen on conventional H & E stained slides. ⁵ Various treatment options comprises of surgical extraction & repositioning, leaving the tooth for eruption spontaneously or orthodontic treatment & when they are associated with teeth that are not erupted, soon after removal of the lesion orthodontic traction of the impacted tooth may be needed [11]. Surgical enucleation is the management of choice for odontomas because though odontoma has a limited potential for growth, it should be removed because it has various tooth like structures which may predispose to cystic changes [12]. Odontomas can be enucleated by surgical excision without trauma to adjacent teeth as they are mostly separated by a bone septum as stated by kaban [13].

Conclusion

The odontoma erupted in front region of the lower jaw which is a rare occurrence, is a significant and captivating feature in this case. Complete surgical removal of odontoma was done. So, a thorough manual, visual and radiographic examination is needed in patients with clinical findings with missing tooth, delayed eruption or temporary displacement of tooth, with or without history of trauma for early detection and to ensure better prognosis.

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