

Odontoma: Case Report

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Abstract: Odontomas are the most common developmental anomalies of the jaw that delay the eruption of the associated tooth. These lesions are generally accidentally diagnosed on radiographic investigation and they are asymptomatic. They are 2 types Compound and Complex Odontoma. Compound Odontomas are varied numbers of tooth-like elements. In Complex Odontoma - the enamel, dentin, and cementum are present in a disorganised manner. Compound Odontoma is most common in anterior maxilla and complex Odontoma most common in posterior mandible. Odontoma has a limited growth potential, but it should be removed because it contains various tooth formulations that can predispose to cystic change, interfere with eruption of permanent teeth and cause considerable destruction of bone. The present case report describes the surgical management of two cases of compound odontoma.

Keywords: Odontomas, Compound and Complex Odontoma, Mesiodens, Surgical excision.

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I. Introduction

Odontomas are the most common odontogenic tumors described by Paul Broca in 1867.¹ Odontomas are hamartomatous odontogenic lesions because they consist of both epithelial and ectomesenchymal components, with morphologically normal cells and defective structural organs, which account for 22% of the odontogenic tumors.² They are the most common benign odontogenic tumors of epithelial and mesenchymal origin. A growth with both the epithelial and mesenchymal components exhibiting complete differentiation resulting in functional ameloblasts and odontoblasts. These cells in turn form variable amounts of enamel and dentin and pulpal tissue of the odontoma.³ This enamel and dentin were usually laid down in an abnormal pattern because the organization of odontogenic cells failed to reach the normal state of morphodifferentiation. So they are considered as developmental anomalies rather than true neoplasm.^{4,5}

Pathogenesis for Odontomas include hyperactivity of odontoblasts, changes in the genetic components responsible for dental development and trauma to primary teeth.¹

Supernumerary teeth are additional teeth in normal dentition. That result from disturbances during the initiation and proliferation stages of dental development. Supernumerary teeth can occur in both primary or permanent dentition. Montenegro *et al.* (2006) found that the most frequent supernumerary tooth was mesiodens (46.9%) and it is present in the midline between the two central incisors.⁶ Complications of supernumerary teeth can include delayed the eruption of the permanent tooth or displaced the tooth from its original position, crowding, resorption of adjacent teeth, cyst formation (dentigerous cyst), pericoronal space infection, and crown resorption. To prevent complications early diagnosis and treatment are important. Depending on the size, shape, and number of supernumeraries surgical management will vary.⁴

The present paper describes the clinical features, diagnosis and treatment of a case of compound odontoma.

II. Case Report:

A healthy nine-year-old male patient, reported to the Department of Pedodontics and preventive dentistry, with chief complaint of missing tooth in upper front tooth region. Intra-oral examination revealed mixed dentition with his permanent maxillary central incisors were missing. [figure -1].



Figure-1

Radiographic examination revealed multiple dense radio-opaque structures in the maxillary anteriors. [figure - 2].



Figure-2

Sagittal sections of computed tomography revealed palatally placed mesiodens. [figure -3]

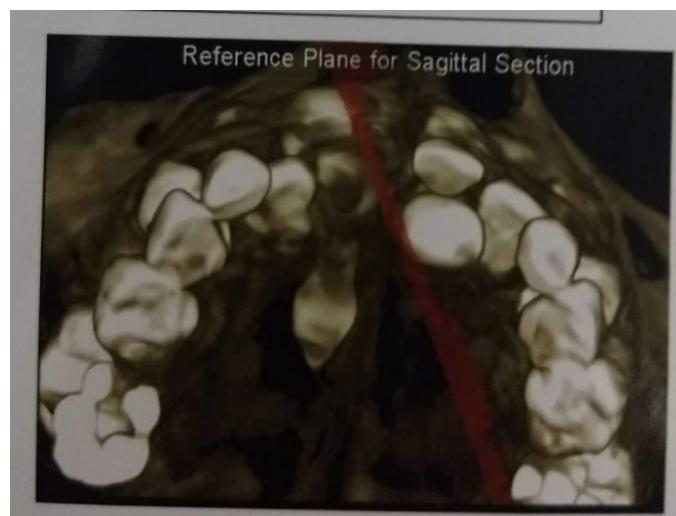


Figure 3

Routine blood investigations were carried out and the patient was posted for surgery. The retained teeth were extracted and a full thickness mucoperiosteal flap was reflected under Local anesthesia. A bony window was prepared in maxillary anterior region. Three small denticles were removed. **[Figure-4,5]**



Figure 4



Figure 5

Since the root formations of both these teeth were incomplete, the teeth were let to erupt on their own. To ensure that no denticles remained, radiographs were taken. [Figure 6] The area was irrigated with saline and the mucoperiosteal flap was sutured back. Healing was uneventful and sutures were removed on the seventh post-operative day.

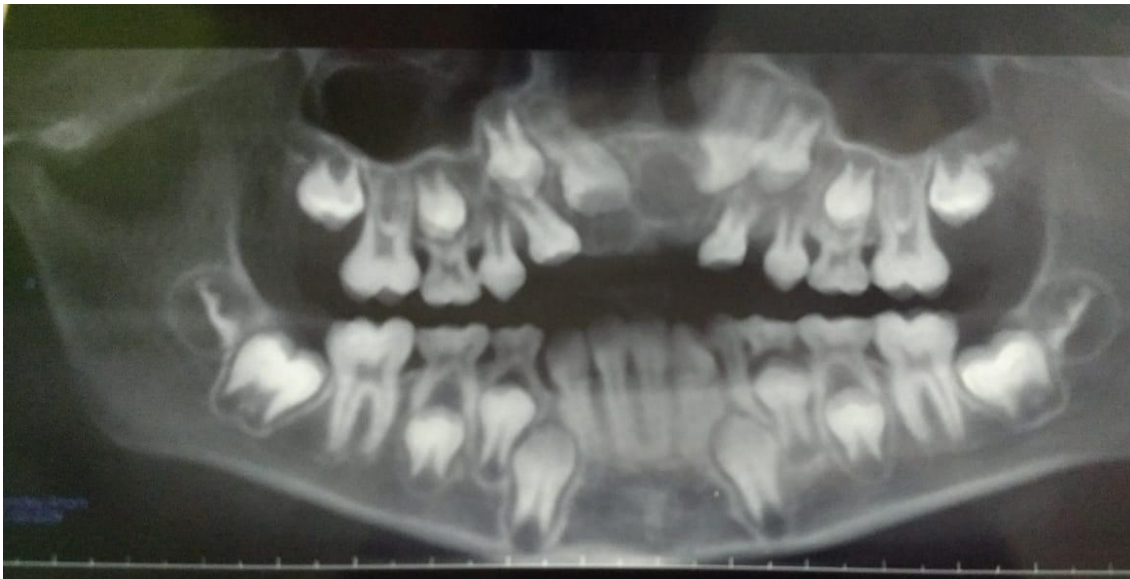


Figure 6

Followup orthopantomograph(OPG) taken after 5 month and 12 month.[figure 7,8]



Figure 7



Figure 8

The patient is on periodic observation for 6 months interval.

III. Discussion:

Odontomas are the most common odontogenic tumours and are classified as benign, mixed and calcified odontogenic tumours. Odontomas constitute about 22% of all odontogenic tumours of the jaws. Approximately, 10% of all odontogenic tumours of the jaws are compound odontomas. The incidence of compound odontoma ranges between 9 and 37% and the complex odontoma is between 5 and 30%.⁷ Most commonly seen in the first and second decades of life. The majority of odontomas in the anterior segment of the jaws are compound in type (61%), whereas the majority in the posterior segment is complex in type (34%). Interestingly both type of odontomas occurred more frequently on the right side of the jaw than on the left.³

Clinically, odontoma are classified as: intraosseous, extraosseous and erupted.

According to Thoma and Goldman odontomas classified as follows:

1. Geminated composite odontomes - two or more, more or less well-developed teeth fused together.
2. Compound composite odontomes - made up of 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 cyst or in a wall of cyst.³

Radiographically, multiple, small, calcified and radiopaque masses with an anatomical similarity to normal teeth are compound odontomas, whereas calcified radiopaque masses which bear no anatomical resemblance to the teeth and are frequently associated with the posterior mandibular region are complex odontomas. These both odontomas are surrounded by a narrow radiolucent zone.⁴

Early diagnosis of odontomas helps us to:

1. Adopt a less complex and less expensive treatment
2. Ensures better prognosis
3. Avoid relapse of the lesion
4. Avoid displacement or devitalization of adjacent tooth.⁹

The treatment of choice for odontoma is surgical exposure and removal to eliminate the mechanical obstruction, and then expected spontaneous eruption of permanent teeth. Moreover, the probability of recurrence is very low if the tumor has been completely removed. If a bone defect is present in the alveolar ridge after removal of odontoma, bone grafts are necessary to reconstruct the alveolar ridge and prepare the region for future implant surgery, or for further oral rehabilitation.¹⁰

IV. Conclusion:

The occurrence of odontoma in association with the impacted incisor and mesiodens, is a rare combination. The patient was treated with surgical removal of odontoma, extraction of the mesiodens and kept the patient under observation for spontaneous eruption of the unerupted central incisor.

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