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Erupted Large Anterior Maxillary Complex Odontoma: A Rare Dental Hamartoma

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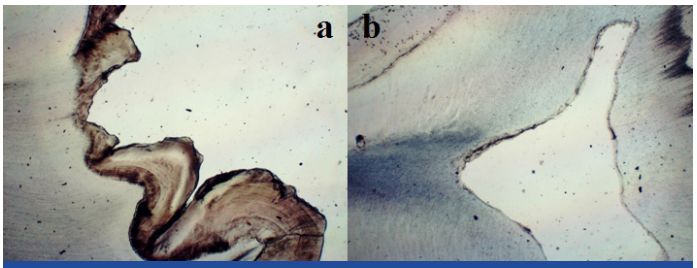
A 13-year-old male patient reported with the complaint of pain and swelling in left upper region. His medical history was non-significant and this was his first visit to the dentist. Extra-orally there was no asymmetry or palpable lymph nodes. Intraoral examination revealed absence of left maxillary canine. On inspection, swelling was noticed on labial side of unerupted tooth. A well defined firm bony nodule measuring approximately 10cm fixed to the underlying tissue and not mobile when palpated [Table/Fig-1]. There was absence of buccal and lingual cortical plates in the same region.

Patient was advised a panoramic radiograph [Table/Fig-2] which disclosed a well-defined radiopaque mass surrounded by a radiolucent band, present adjacent to an impacted tooth, which appeared to have been displaced towards the lower border of the nose. The radiopaque mass had a density greater than that of bone and equivalent to that of teeth. On the basis of radiological and clinical examination, the case was provisionally diagnosed as an odontoma.

The patient was treated by removing the mass surgically and placing bone graft into the cavity for providing support during future prosthetic rehabilitation. Routine preoperative investigations and medications including antibiotic coverage and corticosteroids were prescribed. After proper surgical preparation and administration of local anesthesia, crevicular incision was made in relation to labial aspect of bony mass, followed by two diagonal relieving incisions placed on distal side of left lateral incisor and mesial side of premolar to facilitate proper access to the site. Full thickness muco-periosteal flap was elevated towards the lateral aspect of maxilla [Table/Fig-3]. Lesion was surgically enucleated from the healthy bone in toto [Table/Fig-4] and sent for histopathological examination. The diagnosis of complex composite odontoma was confirmed with identification of eosinophilic ghost cell clusters. There were seen irregular masses of enamel, dentin and pulp that bore no resemblance to normal tooth, but in some areas organized dental tissues resembling a tooth were also seen interspersed [Table/Fig-5a,b]. Hydroxyapatite (Perioglass) was used as an alloplast material for cavity bone regeneration. Absorbable gelatine sponge was placed for better haemostasis and healing and the flap repositioned. Routine post-operative instructions were given. After seven days of recall, post operative wound healed uneventfully and a panoramic radiograph was repeated [Table/Fig-6].

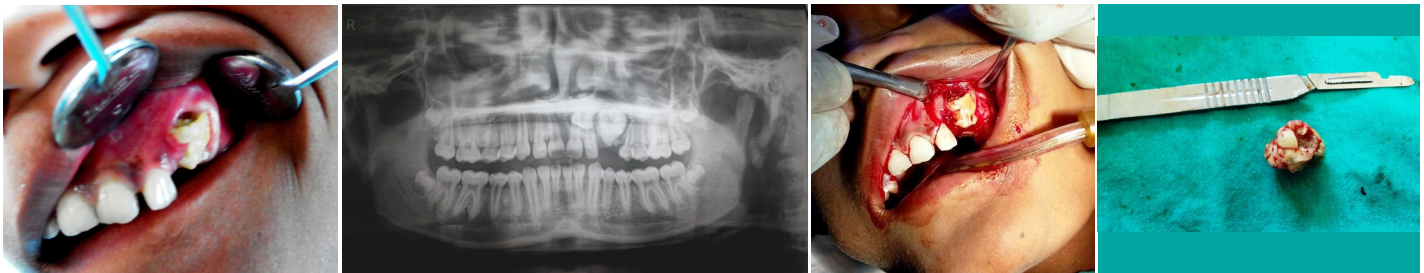


[Table/Fig-5a,b]: Histopathological views showing enamel, dentine and pulp structure.

[Table/Fig-6]: Post-operative orthomophantomographical view (Broader view).

DISCUSSION

Odontomas are one of the largest groups of odontogenic tumors that are slow growing and mostly asymptomatic. Symptoms develop when an odontoma attains size large enough to cause expansion of bone, facial asymmetry when associated with a dentigerous cyst or malocclusion. Usually, they are detected on routine radiographic examination while attending to retained deciduous teeth or disturbances in eruption of permanent



[Table/Fig-1]: Intra-oral view showing a mass in the upper left maxillary region. **[Table/Fig-2]:** Radiographic (orthopentomographic) view showing radio opaque lesion surrounded by a radiolucent zone and lying adjacent to an impacted tooth. **[Table/Fig-3]:** Full thickness muco-periostal flap raised to expose the lesion intra-orally. **[Table/Fig-4]:** Excised lesion surgically enucleated from healthy bone in toto.

Features	Compound Odontoma	Complex Odontoma
Frequency of occurence	This occurs at rate of 9% and 37% and is commonest odontogenic malformation.	It occurs as rate of between 5% and 30% among odontogenic tumors.
Age	Mostly occurs in second –third decade.	The majority of cases occur before age of 30 years.
Gender	Male and female are equally affected with some male predominance.	Male and female subjects are equally affected.
Sites	Anterior maxilla	Posterior mandible > anterior maxilla.
Clinical presentation	It is painless, non-aggressive lesion, usually associated with an unerupted associated permanent tooth.	Present as painless, slow-growing and expanding lesion usually associated with an unerupted permanent tooth.
Radiological features	Well defined Radiopaque mass of multiple, small, calcified structures anatomically similar to normal teeth, of different shape and size, surrounded by a well defined radiolucent zone.	Irregular mass of calcified material with the radiodensity of tooth structure having no anatomical similarity to tooth and is surrounded by a narrow radiolucent margin.
Histological features	Tooth like structure with central pulp tissue sourrounded by shells of dentin, enamel and covered by fibrous capsule resembling normal tooth follicle.	Haphazardly arranged structures of enamel matrix, dentin, cementum and pulp tissues.
Treatment	Conservative surgical excision.	Conservative surgical excision.

[Table/Fig-7]: Table showing major characteristics of compound and complex odontomas.

teeth. Histologically, odontomas are classified as complex and compound odontomas [Table/Fig-7]. Compound odotomas are twice as common as complex odontomas. Particularly, the compound variant is more frequently found in the maxillary anterior region while complex variant is more often present in the posterior region of mandible [1]. In our case, the lesion was identified as complex odontoma and was found in the anterior maxilla on the left side contrary to its usual location of right side. Moreover, it was also erupted into the oral cavity which contributed to its rarity. Erupted odontomas are quite infrequent accounting for only 1.6% cases and are mostly associated with impacted teeth [2]. An erupting or erupted odontoma may present with pain, swelling, recurrent infection and inflammation, suppuration, halitosis and mucosal inflammation. Occasionally, expansion of cortical bone, displacement of teeth and paresthesia may be also seen with an erupting odontoma [3].

In our case, the most likely etiology appeared to be local trauma; additionally resulting in displacement of tooth germ and subsequent tooth malformation and impaction. The tooth impacted in our case did not radiographically resemble a permanent maxillary canine. No attempt was made to remove this tooth as it was lying asymptomatically close to the roots of maxillary lateral and central incisors extending until the floor of the nasal cavity. Removal of this tooth would have demanded further bone cutting and jeopardizing the vitality of adjacent teeth.

Salient features of our case

- Complex odontoma erupting into oral cavity is rare.
- Complex odontoma usually occurs in the posterior mandible (59%) and the premolar area (7%) [4] whereas in our case it occurred in the anterior maxilla.
- Complex odontoma more frequently is present on the right side of the jaws (68%) [5] however, in our case it was seen on the left side.
- Complex odontoma generally overlies impacted teeth but in this case it was situated adjacent to impacted tooth and the affected tooth had a dilacerated root.
- Complex odontoma rarely exceeds the size of a tooth but in our case its size was greater than the size of a tooth as seen in the radiograph.

Odontomas mostly form during the early developing stages in young children, thereby resulting in disturbances of permanent teeth eruption. Early diagnosis and treatment of odontoma is important to aid in normal eruption of teeth and prevent malocclusion. Surgical removal of odontoma is the only sole treatment of choice till now. Their prognosis is very favourable and tendency towards relapse is minimal.

REFERENCES

[1] Azhar DA, Kota MZ, El-Nagdy S. An unusual erupted complex composite odontoma: a rare case. *Case Reports in Dentistry.* 2013;Article ID 106019:1-4.
[2] Amado CS, Gargallo AJ, Berini AL, Gay EC. Review of 61 cases of odontoma. Presentation of an erupted complex odontoma. *Med Oral.* 2003;8:366-73.
[3] Vengal M, Arora H, Ghosh S, Pai KM. Large erupting complex odontoma: a case report. *Journal of the Canadian Dental Association*. 2007;73:169–72.
[4] Budnick SD. Compound and complex odontomas. *Oral Surg Oral Med Oral Path.* 1976;42:501-06.
[5] Nisha D, Rishabh K, Ashwarya T, Sukriti M, Gupta SD. An unusual case of erupted composite complex odontoma. *Journal of Dental Sciences and Research*. 2011;2:1–5.

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