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Multiple Compound Composite Odontomas Of The Maxilla: A Report Of Two Cases

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Abstract:
Odontomas are benign mixed odontogenic tumours, considered to be developmental anomalies resulting from the growth of differentiated epithelial and mesenchymal cells. It is the most common benign odontogenic tumour, usually asymptomatic and are often discovered during routine radiographic examinations. It can occur at any age, but are most common in the first two decades of life. It is more commonly seen in the anterior maxilla and frequently cause delayed eruption of teeth or retention of primary teeth. Morphologically odontomas are classified as compound and complex odontomas, in which the former resembles teeth whereas the latter being an irregular mass.
This paper describes two cases of compound composite odontomas of anterior maxilla in 10 year old and 5 year old patients, with detailed clinical presentation, histopathological features and treatment aspects.
Keywords: *Odontomas; multiple odontomas; compound composite odontome*

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I. Introduction

Odontomas are the most common benign mixed odontogenic tumors, considered to be developmental anomalies resulting from the growth of differentiated epithelial and mesenchymal cell, which have enamel and dentin, and can also have variable amounts of cementum and pulp tissue.[1] It is a slow growing and non-aggressive lesion which generally appear as small, solitary, or multiple radio-opaque lesions which are found on routine radiographic examination. These may occur at any age, but are most common in the first two decades of life (average age of 14−18 years) and it is more common in the maxilla, especially the anterior maxilla, than in the mandible. Frequently, they cause delayed eruption of the teeth or retention of primary teeth.

Morphologically odontomas are classified as compound and complex odontomas. Compound odontomas are an agglomeration of small structures resembling teeth, that tend to occur between teeth and composed of multiple small tooth-like structures. These are seen more common in the anterior jaws. On the other hand, complex odontomas are an irregular mass in a disorderly pattern that tends to occur in the posterior jaws and present as a conglomerate mass.[6]

In this report, two cases of compound composite odontome in the anterior maxilla of 10 year old and 5 year old patients are described with detailed clinical presentation, histopathological features and treatment aspects.

II. Case Reports

Case 1:

A 10-year old boy reported to department of paedodontics and preventive dentistry, Government dental college, Kozhikode, with the chief complaint of retained tooth and an asymptomatic swelling in the upper right front tooth region since 6 months. His medical history was non-contributory. There was a history of trauma to oro-facial region 2 years back. Extra oral examination revealed no abnormalities. Intra-oral examination disclosed a smooth surfaced, dome shaped swelling approximately 3x2 cm in size associated with the attached gingiva of the upper right canine region (Fig.1, 2). On palpation, the swelling was non-tender and bony hard;

with no local rise in temperature. Tooth 52 was seen retained. Radiographic examination revealed impacted 12 with evidence of associated swelling.

The CBCT (Cone beam computerized tomography) scan revealed the presence of multiple heterogeneous radiopaque tooth like masses in the right anterior maxillary region located periapical to the root of #53 #52 & #14 (Fig.3,4). The right permanent lateral incisor was found impacted in an oblique horizontal position with open apex. The right permanent canine was superiorly displaced with delayed eruption.

Fig. 1

Fig. 2

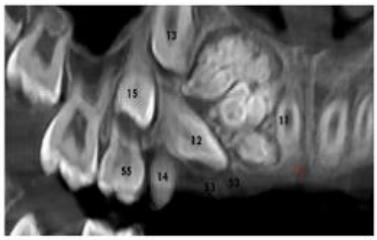

Fig. 3

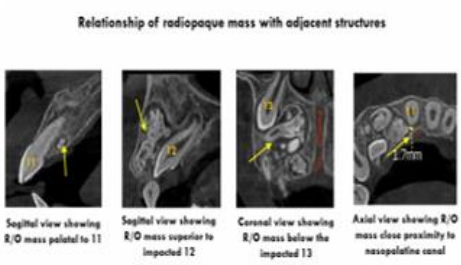

Fig. 4

Based on the clinical and radiographic findings, a provisional diagnosis of compound odontome was made. The lesion was approached via intra-oral incision and the surgical excision of the lesion was performed under LA, along with the extraction of 52 (Fig.5, 6). The postoperative radiograph showed complete removal of odontomas and wound healing was satisfactory without any complications. The histopathological examination confirmed the diagnosis of compound odontoma(Fig.7). A periodic follow-up is advised.

Fig. 5: Excised specimen **Fig. 6**: Post-op

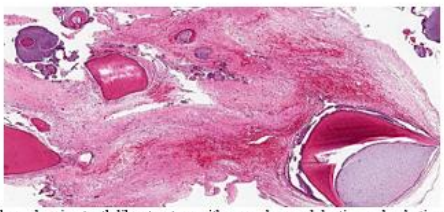

Fig. 7: Histopathology showing tooth like structure with enamel around dentine and pulp tissue in a background of collagen bundles

Fig. 8: 1month follow up **Fig. 9**: 1 year follow up

Case 2:

A 5-year old boy reported to department of paedodontics and preventive dentistry, Government dental college, Kozhikode, with the chief complaint of an asymptomatic bony hard, swelling in relation to the upper right front tooth region since 4 months. His medical history was non-contributory. Extra orally no abnormalities detected. Intra-oral examination revealed a smooth surfaced, swelling approximately 2x2 cm in size associated with the attached gingiva of 52, 53 and 54(Fig.1). On palpation, the swelling was non-tender and bony hard; with no local rise in temperature.

The CBCT (Cone beam computerized tomography) scan showed the presence of multiple hyper dense mass of varying densities similar to enamel, dentine and pulp with respect to interradicular region of 52 & 54 within the alveolar bone, measuring 8.4x8.1x6.2 mm^3(Fig.2,3). Within the lesion, areas of well defined hyper dense masses resembling teeth were noted. Surrounding the lesion, there was presence of hypo dense rim followed by corticated border, suggestive of follicular space. There was expansion and marked thinning of labial cortical plate.

Surgical excision of the odontome was performed under local anesthesia and the wound healing was satisfactory without any complications (Fig.4,5). The post-operative radiograph showed complete excision of the odontome (Fig.6). Histopathological examination of the excised specimen confirmed the diagnosis of compound complex odontome (Fig.7). A periodic follow-up was planned.

Fig.1: Intra-oral view

Fig. 2: Panoramic View

Fig. 3: CBCT Sections

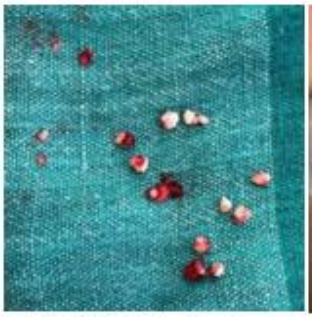

Fig. 4: Specimen

Fig. 5: Post-op

Fig. 6: Post-op OPG

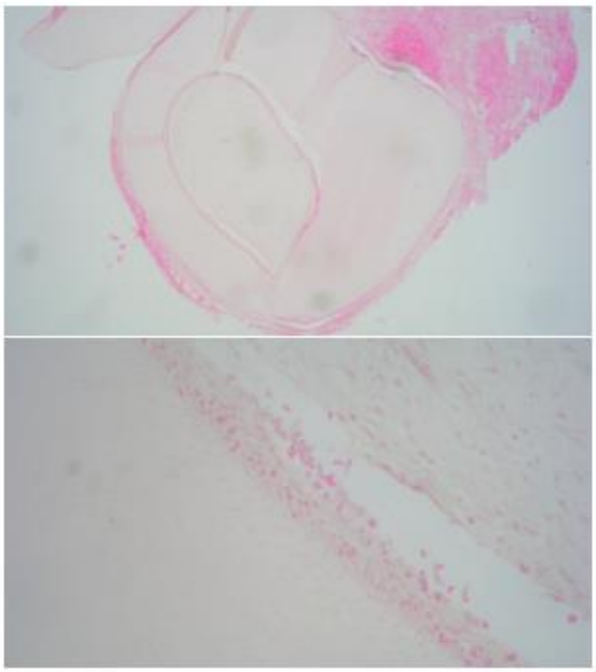

Fig. 7: Histopathology

III. Discussion

Odontomas are the most common odontogenic tumors which constitute 22% of all odontogenic tumors of the jaws.[3].They are generally asymptomatic and detected incidentally on routine radiographic examinations in the second and third decades of life. Although they are seldom symptomatic, clinical clues of odontome may include retained deciduous teeth, non-eruption of permanent teeth, pain and expansion of the cortical bone and tooth displacement.[6]

The exact etiology of this condition has not been clearly identified, but infection, trauma, family history, and genetic mutation are considered as the predisposing factors that contribute to the occurrence of odontomas Based on the microscopic and radiographic features, it is broadly divided into compound odontome and complex odontome. Morphologically and anatomically, compound odontome is a tooth-like structure whereas complex odontome does not show any similarity to the tooth.

Histologically, the odontome is composed of dentin, cementum, pulpal tissue and enamel, which makes the diagnosis simple. These lesions are benign and are conservatively treated with simple curettage/excision with a little or no possibility of relapse. The tendency towards relapse is greater, when the lesion is removed in its non calcified tissue stage. If it recurs, one must rule out other odontogenic lesions such as calcifying odontogenic cyst and ameloblastic fibro-odontoma.[6]

IV. Conclusion

Odontomas can result in various tooth related abnormalities like delayed eruption of permanent teeth, bony destruction, tooth displacement and even cystic changes. So it should be removed as detected despite of its limited growth potential. Therefore, radiographic examination is recommended in paediatric patients reporting with delayed tooth eruption or tooth displacement with or without history of previous dental trauma.

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