



Fortuitously Discovered: Compound odontoma- A Case Study

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[Case Study](#)

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ABSTRACT

Many Development anomalies of the maxilla and mandible diagnosed incidentally on radiographs usually are asymptomatic, however the basis for evaluation being delayed eruption of teeth or impaction of permanent teeth. Odontomas are odontogenic benign tumors composed of dental tissue and usually thought of as “tooth hamartomas” with the lesion consisting of various tooth components. This paper describes the case report of a 12-year-old girl with an impacted central incisor and on the basis of clinical and radiological examination diagnosis of an odontoma is made.

Keywords: Tooth Hamartoma, Odontoma, Delayed Eruption.

Introduction

Broca in 1866, defined odontoma as a tumor of overgrowth of complete dental tissue.¹ According to Morawala et al² Odontomas are thought to be developmental anomalies derived from the growth of completely differentiated epithelial and mesenchymal cells that give growth to ameloblasts and odontoblasts. Odontomas have been convinced to be hamartomas and not true neoplasms because the epithelial and mesenchymal cells and tissues of an odontoma can appear normal but impaired in the structural arrangement.

According to WHO odontomas are divided into two varieties depending on their degree of morpho differentiation. Ramya Rai et al³ described that Compound odontoma is a lesion within which all the dental tissues are depicted in an orderly fashion so that there is a minimum of superficial anatomic likeness to teeth. In a complex odontoma, at the same time, in spite of the fact all the dental tissues are represented, they



are found in such a rudimentary fashion that there is little or no morphologic affinity to traditional tooth formation.

The cause behind the development of odontoma is still unknown. Many theories suggest infection, local trauma, familial history, hereditary anomalies, odontoblastic hyperactivity, and molecular events may be responsible for controlling tooth development. Compound odontomas are more often noticed in the anterior maxilla, while complex odontomas are frequently seen in the posterior mandible.^{1,1}

Odontomas are most commonly found on routine radiographic examination, as ill-defined radiopaque, tooth-like structures, or small mass. The, recommended treatment for odontomas is surgical intervention and a good prognosis with no recurrence depend upon early diagnosis and treatment.

In this paper, we are presenting such a case of compound odontoma encountered in the anterior maxilla on a routine radiograph due to delayed eruption of the central incisor.

Case Report: A 12-year female patient reported to the Oral medicine and Radiology department of Teerthanker Mahaveer dental college and research centre with a chief complaint of an unerupted upper front tooth. According to the patient's mother, no permanent tooth erupted in the front tooth region after exfoliation of the deciduous tooth, although other teeth erupted on time after exfoliation of deciduous teeth. Her medical history was non-contributory. There was no history of trauma to his orofacial region, no family history of unerupted teeth or hypodontia.

She was examined clinically and had all permanent teeth erupted with missing right maxillary central incisor while the contralateral tooth, i.e., the left maxillary central incisor, right maxillary lateral incisor was erupted and were normally positioned in the arch. There was no positive history related to the extraction of that tooth. On palpation, no tenderness was noticed over that region. Initially, diagnosis of impacted right maxillary central incisor was given and the patient was referred for an Intraoral periapical radiograph of 11.

IOPAR irt 11 [Figure.1] revealed two well-defined small radiopaque tooth-like structures above the crown of the unerupted central incisor in the alveolar socket. The unerupted central incisor was medially inclined over the left central incisor and the apex of the unerupted central incisor was not clear so the patient was subjected to a maxillary topographic occlusal radiograph [Figure.2]. The occlusal radiograph also revealed two radiopaque teeth-like structures above the crown of the unerupted tooth, root formation of the unerupted central incisor was completed and the apex appeared as closed. Based on this the propensity of its eruption on its own even after the surgical removal of the radiopaque tooth-like structure was Null.

Illustration

Two small radiopaque tooth-like structure noticed in both IOPAR and occlusal view.



Figure: 1 IOPAR



Figure: 2 Maxillary Topographic occlusal radiograph

After clinical and radiographic examination Provisional diagnosis is of compound odontoma and differential diagnosis of supernumerary teeth was given.

Discussion: Odontomas account for 22% of all odontogenic tumours. Usually slow-growing, asymptomatic, associated 80% with unerupted or impacted tooth and occasionally with a dentigerous cyst, and it has a marked predilection for the maxilla (67%) and for the anterior region of the jaw (61%). Most occur in the first and second decades of life, and the mean age at the time of diagnosis is 14-years.^{3,1}

Delineate studies disclosed that compound odontomas are often seen in the anterior maxilla in the incisor and canine region on the right side of the jaw which is confirmed in the present case.

Although our patient was a female, considerable controversy exists over gender distribution. According to Pillai et al⁴, the compound type is uniformly dispersed between both genders, 60% of complex odontomas are considered to be more common in females than in males. On the contrary, Iatrous et al and Yadav et al noticed a male prediction for compound odontome.⁵

The radiological discovery of odontoma relies on the period of evolution and degree of calcification. The initial stages are marked by radiolucency, because of the absence of calcification. The intermediary phase has a mixed radiopaque and radiolucent appearance, although, the last stage appears mainly radiopaque, and is surrounded by a radiolucent rim corresponding to the connective tissue, histologically. The presence of thin sclerotic margins adjacent to the radiolucent rim resembles the corticated border seen in a normal tooth crypt.^{1,2}

In the present case, it appears similar to the last stage that is predominantly radiopaque but not surrounded by a radiolucent rim. as more commonly seen in complex odontoma.

The diagnosis should be established on the basis of routine radiological examination (intraoral radiograph/occlusal radiographs), or on evaluating the cause of delayed tooth eruption. The possible course of action is the surgical removal of the lesion in all cases, complying with the histopathological study to verify the diagnosis.



Conclusion: Odontomas rarely erupt in the oral cavity and are associated with impacted as well as retained teeth. A thorough visual, manual as well as radiographic examination should be performed on all patients who present with clinical evidence of delayed eruption or missing tooth. Also, early diagnosis of odontomas allows less complex and less expensive treatment and ensures for better prognosis.

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