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Case Report **Oral Medicine**

Compound Odontoma – A Case Report and Review of Literature

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Abstract

The odontoma is a benign tumor containing all the various component tissues of the teeth. It is the most common odontogenic tumor representing 67% of all odontogenic tumors. Odontomas are considered to be developmental anomalies (hamartomas) rather than true neoplasms. Based on the degree of morphodifferentiation or on the basis of their resemblance to normal teeth, they are divided into compound and complex odontomas. The compound odontoma is composed of multiple, small tooth-like structures. The complex odontoma consists of a conglomerate mass of enamel and dentin, which bears no anatomic resemblance to a tooth. They are usually diagnosed on routine radiological examinations in the second decade of life and are often slow growing and non-aggressive in nature. Here, we report a case of unusually, rare, compound odontoma, located in the left posterior mandible of a 17-year-old male patient.

Keywords: Compound Odontoma, hamartoma, odontogenic tumor, radiopacities.

INTRODUCTION

Odontomas are considered to be developmental anomalies resulting from the growth of completely differentiated epithelial and mesenchymal cells that give rise to ameloblasts and odontoblasts. These tumors are basically formed of enamel and dentin but they can also have variables amounts of cement and pulp tissue. Complex odontomas are less common than the compound variety, and the latter occurs more commonly in the maxilla, having a predilection for the incisor-canine region without gender bias. The complex odontoma is more common in the mandibular posterior teeth region and has a female predilection. The treatment of choice is surgical removal of the lesion, followed by histopathological examination to confirm the diagnosis.

CASE HISTORY

A 17-year-old male patient visited the department of Oral Medicine and Radiology, with a chief complaint of forwardly placed anterior tooth region for past 3years. Patient was aesthetically concerned. There were no abnormalities noticed on extra oral and intra oral examination. For routine screening radiological investigation we advised to take orthopantamogram (Fig 1) revealed that in between 34 and 35, there was a oval shaped radiopaque mass with well defined radiolucent rim which resembles a tooth differntiating enamel, dentin and pulp. So considering these features, considering these features a radiological provisional diagnosis Odontome was made, so we gave radiological differential diagnosis as cemento-ossifying fibromas and ameloblastic fibro-odontoma (AFO) periapical cemental dysplasia, and enostosis., planned for surgical removal of odontoma (Fig 2). To confirm the diagnosis, we had given for histopathological examination (Fig 3). The histopathological report given as H and E sections shows connective tissue stroma. Connective tissue is hypercellular with myxomatous areas resembling dental papillae suggestive of Compound Odontoma.

Figure 1: Orthopantamogram Showing Odontome in between 34 and 35

Figure 2: Surgical Removal of Odontome

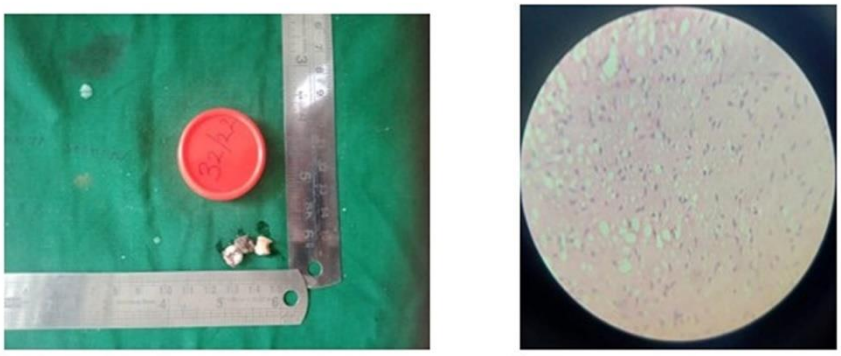

Figure 3: Histopathological Examination

DISCUSSION

It was Paul Broca in 1867, who first used the term 'Odontoma'. He defined the term as, "a tumor formed by overgrowth of transitory or complete dental tissues" [1]. Odontomas are hamartomatous lesions or malformations. They constitute 22% of all odontogenic tumours of the jaw making them the most common benign odontogenic tumours. The WHO classification defines the complex odontoma as, "a malformation in which all the dental tissues are represented, individual tissues being mainly well formed but occurring in a more or less disorderly pattern" [2]. At present, three clinical variants of odontomas are recognized - central (intraosseous), peripheral (extraosseous), and erupted odontomas [3]. The erupted odontoma is an intraosseous odontoma that erupts into the oral cavity, whereas, the peripheral one occurs only in the soft tissue covering the tooth-bearing portion of the jaw [4]. Clinically, odontomas are asymptomatic. The radiological findings of odontoma depend on the stage of development and degree of mineralization. The initial stages are characterized by radiolucency, because of the absence of calcification. The intermediate stage has a mixed radiopaque and radiolucent appearance, whereas, the last stage appears predominantly 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 [5].

On the basis of the presenting radiographic and histopathological findings in our patient, a diagnosis of compound odontoma was made. They differ from cemento-ossifying fibromas, as they are more radiopaque and have a tendency to associate with unerupted molar teeth. Odontomas occur more among younger patients as compared to cemento-ossifying fibromas. Although periapical cemental dysplasia might resemble the complex odontoma, they are usually multiple and centered on the periapical region of the teeth. In addition, the periphery of cemental dysplasia usually has a wider uneven sclerotic border. Differentiating ameloblastic fibro-odontoma (AFO) from a developing odontoma might be difficult, but generally these tumors have a greater soft tissue component (radiolucency) than the odontoma. A complex odontoma usually has a mass of disorganized tissue in its center, whereas, the AFO usually has multiple, scattered, mature, and small pieces of dental hard tissue. Also, the AFO occurs in older individuals as compared to the complex odontoma. Regions of enostosis, although radiopaque, do not have a soft tissue capsule, as seen in odontomas [6]. Conservative surgical excision was done. About 70% of the odontomas, if left untreated, are associated with pathological changes such as - impaction, malpositioning, aplasia, malformation, and devitalization of the adjacent teeth [7].

CONCLUSION

In conclusion, odontomas are common hamartomatous lesions occurring mostly in the second decade of life with no gender predilection. Clinically, they are often asymptomatic, might cause occasional pain and swelling, and rarely facial asymmetry. Most often they are the reason for impacted, malpositioned, aplasia, malformation, and devitalization of adjacent teeth. Thus, an oral diagnostician should keep odontomas as a priority in their differential diagnoses in the above-mentioned clinical situations.

Prior publication: Nil
Support: Nil
Conflicts of interest: Nil

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