ABSTRACT

Purpose: Odontomas are benign odontogenic tumors of the jaws and constitutes about 22% of all odontogenic tumors. Odontomas are divided into two subtypes, complex odontoma and compound odontoma, with differences in their macroscopic and microscopic features. Compound odontomas are encountered mostly in the anterior maxilla, whereas complex odontomas are often seen in the posterior mandible. The aim of this case report was to present surgical removal of a complex odontoma associated with second and third molar and inferior alveolar nerve.

Material Method: 21 year-old-male patient was referred our department with a large complex odontoma which is seated in the left mandibular molar region and associated with impacted third and second molar and inferior alveolar nerve. Impacted teeth and complex odontoma was removed surgically.

Results: There was no complication or numbness postoperatively.

Conclusion: Complex odontomas are benign odontogenic tumors and recurrence is unusual.

Keywords: Odontogenic tumor, treatment

INTRODUCTION

Odontogenic tumors are extremely rare (0.002% to 0.1%) and odontomas constitutes 21% to 67% of all odontogenic tumors. So odontomas are the most common odontogenic tumors. In most cases, odontomas are diagnosed in 1 or 2 decades of life.1,2 Odontomas are considered to be developmental anomalies (hamartomas), rather than true neoplasms. Odontomas are divided into compound and complex types. The compound odontoma is composed of multiple, small toothlike structures. The complex odontoma consists of a conglomerate mass of enamel and dentin, which bears no anatomic resemblance to a tooth.3 Although compound and complex odontomas may be found in any site, the compound type is more often seen in the anterior maxilla; complex odontomas

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occur more often in the molar regions of either jaw. Clinical signs suggestive of an odontoma include a retained deciduous tooth, an impacted tooth, and alveolar swelling. These lesions generally produce no symptoms. Odontomas should be removed by conservative surgery because they have very low growth potential and enucleation or surgical excision is curative. Recurrence is unusual. Here we present a case of a complex odontoma with a fused impacted third and second molars and also associated with the nervus alveolaris inferior.

**CASE REPORT**

A 21 year-old male patient visited our department for routine examination. Mandibular left second and third molars were missing. Dental/maxillofacial trauma or infections were not reported. The patient did not describe any surgical procedure in the past. Panoramic radiograph was taken and the odontoma like structure was found accidentally on the left mandibular molar region (Fig. 1). The lesion was seemed fused to impacted molars and dominated on the place of the mandibular second molar. The boundaries of the lesion had an appearance of interfering the mandibular canal. The whole molar region was asymptomatic, and the patient did not describe any complaint about the site. There has also been no history of numbness of the area innervated by nervus alveolaris inferior.

Under local anesthesia surgical removal of odontoma and impacted teeth were decided. A vestibular approach was used to access the site. The cortical bone was removed with a metal burr and the amorphous mass was prepared.

Impacted molars were detached from the toothlike process. The tumor and the impacted molars were taken out (Fig. 3). Specimens were sent for histopathologic examination. On macroscopical examination there were twelve biopsy which had a gray/white color, measured 0.8 cm in diameter. Microscopically, pathological specimen shows multiple toothlike structures (Fig. 4).
After surgical removal of tumor, inferior alveolar nerve was seen at the lingual side. The surgery was concluded with a primary flap closure. Numbness was not seen postoperatively. 1 year follow up bone healing was uneventful (Figure 5).

**DISCUSSION**

Odontomas are classified as benign mixed odontogenic tumors in the World Health Organization classification, but are thought to be developmental anomalies rather than benign neoplasms. The pathogenesis is not clear, but trauma during primary dentition, heredity, and genetic mutations are accepted possible etiologic factors. They are a common cause of symptomless tooth impaction. There is currently no consistent evidence that odontomas have a predilection for a specific gender. Some studies emphasise the female predilection, on the contrary, some of them connect their results with odontoma tendency to occur more in men. There are also studies pointing out that there is no predilection for gender.

Histologically, 2 main types of odontomas are recognized: complex and compound. Compound odontomas consist of many separate, small, toothlike structures and usually form in the anterior part of the jaws and may give rise to a painless swelling. Compound ones are seen mostly in younger patients. Complex odontomas tend to appear in the posterior part of the jaws and consist of a disorganized mass of hard and soft dental tissues with no morphologic resemblance to a tooth. All the structures that compose the tooth can be found on the odontomas; these are enamel, dentin, cementum and pulpal tissue. In the compound type these structures are built up like a normal tooth (e.g. the pulp and the dentin are in the center, cementum and the enamel are on the outer surface of the odontoma), while in the complex type, as the name implies, they are seen in irregular form. In our case tooth like structures were found in irregular form.

Odontomas might be very small and remain in their position without getting noticed for years. They are associated with permanent or primary tooth eruption problems. Some of them, although rare, might be seen in erupted position. Patient had a eruption problem of permanent second mandibular molar in our case.

Different factors are thought to be involved in the eruption process since odontomas lack periodontal membrane; which is a necessity for normal tooth eruption. Increasing in size of the odontomas may be one of the mechanisms and it may lead to bone remodeling and resorption of the overlying bone.

Clinically, 3 types of odontomas are recognized in the literature: intraosseous, extrasosseous (soft tissue), and erupted. In this case report, intraosseous complex odontoma was presented.

The radiologic manifestation of odontoma is unique even on conventional radiographs (ie, periapical or panoramic radiographs), appearing as a hyperdense, noncystic, well-defined mass with a radiolucent margin. Because of the small size, favorable location, and distinct appearance of the average odontoma, more extensive radiologic methods, such as cross-sectional tomography, conebeam CT, and CT, are not indicated on a regular basis and should be left for extraordinarily large and obscure cases. Ameloblastic odontoma and ameloblastic fibroodontoma are seen in radiographs with similar features. Therefore all cases of odontoma should be sent to the histologic examination for accurate diagnosis.

In this case, we performed CT to analyze the degree of the relationship of the complex odontoma to inferior alveolar nerve. Panoramic radiography did not provided sufficient information for treatment planning. Although resection under the protection of the impacted tooth is the suggested treatment of choice in one study, we extracted the impacted third molar owing to associating of the inferior alveolar nerve canal and the tooth was fused with the lesion.
CONCLUSION

Odontomas are common, but complex odontomas are rare than compound odontomas. Complex odontomas should be surgically excised because they are characterized by expansion of cortical plates and if left untreated can cause pathological fracture of the bone.

REFERENCES


