Odontoma associated with supernumerary and impacted teeth

Ghassen Krichen, DDS, Resident 1
Hajer Hentati, DDS, Associate Professor 1
Rim Hadhri, MD, Assistant Professor 2
Abdelfatah Zakama, MD, Professor and Head 2
Jamil Selmi, DDS, Professor and Head 1

1Department of Oral Medicine, Oral Surgery. University Clinic of Dentistry. University of Monastir, Tunisia.
2Department of Pathology. University Hospital Fattouma Bourguiba, University of Monastir, Tunisia.

Corresponding Author
Hajer Hentati
Address: Service de Médecine et chirurgie buccales, Clinique universitaire de médecine dentaire, Avenue Avicenne 5019, Monastir, Tunisie.
Phone number: 00 216 98 47 50 10
E-Mail: hajer.hentati@fmdm.rnu.tn
hajer_hentati@yahoo.fr

Access this Article Online

Quick Response Code

www.idjsr.com
Use the QR Code scanner to access this article online in our database
Article Code: IDJSR 0062

Abstract
This report describes a clinical case of asymptomatic complex odontoma in the posterior side of the maxilla associated with impacted and supernumerary teeth in a 16-year-old boy without associated syndrome. The treatment protocol involved a surgical conservative treatment followed by the removal of supernumerary teeth. Orthodontic treatment will eventually be discussed.

Introduction
An odontoma is defined as a benign odontogenic tumor containing enamel, dentin and cementum. 1, 6 It constitutes about 22% of all odontogenic tumors of all the jaw. 8, 11 The World Health Organization (WHO) (2005) classified odontoma as a benign odontogenic tumor composed of odontogenic epithelium and odontogenic ectomesenchyme with dental hard tissue formation. 2, 10, 11 Two main types of odontoma are recognized: compound and complex. Compound odontoma consists of a tumor-like malformation (hamartoma) with varying numbers of tooth-like elements (odontoids). The odontoma complex type consists of a tumor-like malformation (hamartoma) in which the enamel and dentin, and sometimes cementum, are present. 12 The pathogenesis is not clear, but trauma during primary dentition, heredity, and genetic mutation are possible etiologic factors. 8, 9, 11 Odontomas often cause various disturbances in the eruption and position of the teeth. Therefore, the most frequent cause of discovering of an odontoma is the retention of permanent teeth, perhaps with the persistence of the primary tooth. 1 Clinically, three types of odontomas are recognized in the literature: intraosseous (central), extraosseous (peripheral) and erupted odontoma. The intraosseous odontoma occurs inside the bone and may erupt into the oral cavity. The extraosseous odontoma occurs in the soft tissue. 2, 9 Radiologically, the appearance varies from radiolucent during the early stages of the tumor development to radiodense depending on the presence of dentine and enamel in the lesion. 2 Impaction is the total or partial lack of eruption of a tooth after the normal age of eruption. Exceptionally, it can be associated with the supernumerary teeth or an odontoma.
A case of a rare asymptomatic odontoma in the posterior side of the maxilla associated with supernumerary and impacted teeth in a 16-year-old boy with no associated diseases or syndromes is presented here.

**Case Report**

A 16-year-old boy was referred to the department of oral medicine and oral surgery by his dentist for no eruption of the right upper first incisor and persistence of several primary teeth (Figure 1). The medical and family histories were noncontributory. Dental or maxillofacial trauma is not reported. The face appeared bilaterally symmetrical. Lymph nodes were not palpable. An intraoral examination revealed the absence of the maxillary right central incisor with the persistence of deciduous maxillary first and second molars bilaterally, of deciduous maxillary left canine with an ectopic definitive left canine, and of deciduous mandibular first and second molars bilaterally (Figure 2). A panoramic radiograph was performed. It depicted a spherical radiopacity surrounded by a small radiolucent halo with the impaction of the two upper left premolars. It also showed five upper supernumerary teeth and four lower supernumerary teeth (Figure 3).

For further clarification, a dental computed tomography was performed (Figure 4). In accordance with the patient’s parents and the treating orthodontist, a surgical removal of the tumor and supernumerary teeth under local anesthesia was decided (Figures 5, 6, 7, 8 and 9).

On macroscopic examination, the mass measured 2 cm and was hard in consistency. Histologically, it was formed by a mixture of mineralized dental tissues (dentin, enamel and cementum) associated with a loose connective tissue lined by columnar cells. The diagnosis of a complex odontoma was retained (Figures 10 and 11).

**Discussion**

Odontomas are classified as benign mixed odontogenic tumors in the WHO classification, but they are thought to be developmental anomalies rather than benign neoplasms. Odontomas are less common than compound type and are diagnosed at an older age than compound odontomas. Several studies have shown that the predilection site of compound odontomas is the anterior maxilla, whereas complex odontomas often develop in the mandible in various sites. The permanent dentition is affected much more frequently than deciduous dentition. Odontomas often cause various disturbances in the eruption and position of the teeth, therefore the most frequent cause of discovering an odontoma is retention of the permanent tooth. The majority of odontomas are asymptomatic. However, sometimes, swelling, pain, suppuration, bony expansion, delayed eruption and displacement of teeth are noted. In a rare case, odontoma can cause root resorption of the above tooth, paresthesia or anesthesia of the lower lip. Clinically, three types of odontoma are recognized in the literature: intraosseous, extraosseous and erupted. Radiologically, the appearances vary from radiolucent in the first stage to radiodense, depending on the presence of dentin and enamel in the lesion. Complex odontoma appears as a spherical or ovoid radiopacity with a fine radiating periphery surrounded by a radiolucent zone, which may be broader in a developing complex odontoma. Compound odontoma appears as a collection of tooth-like structures surrounded by a radiolucent zone. Odontoma should be differentiated from cementoblastoma, osteoid osteoma or cement ossifying fibroma. Conservative surgical excision is the treatment of choice. Since both compound
and complex odontoma are well-encapsulated and easily-enucleated from the surrounding bone. Recurrence is unusual.\textsuperscript{2,8} In this case, a mature complex odontoma located in the posterior maxillary region is associated with impacted premolars and persistence of deciduous molars in a 16-year-old boy with no associated diseases or syndromes. Clinical features are non-contributory. Differential radiologic diagnoses such as cementoblastoma, osteoid osteoma or cement ossifying fibroma can be ruled out clinically because these are not associated with impacted teeth. The odontoma was removed by a conservative surgery under local anesthesia.

References


Figure 1: Pretreatment intraoral photograph showing the missing first right central incisor and the persistence of deciduous left canine and molars.
Figure 2 Pretreatment Dental Casts

Figure 3 Pretreatment panoramic radiograph revealed a posterior maxillary odontoma associated with impacted premolars and supernumerary teeth.

Figure 4 Pretreatment Computed Tomography Scan

Figure 5 Trans-surgical view: elevation of mucoperiosteal flap

Figure 6 Trans-surgical view showing bone removal and extraction of deciduous teeth.
Figure 7 Trans-surgical view after excision of odontoma

Figure 8 Immediate postoperative view: hermetic suture

Figure 9 Excised odontoma and removed deciduous teeth
Figure 10 The mass was composed of dentin, enamel and a loose connective tissue (Hematoxylin and eosin X 40).

Figure 11 The connective tissue was lined by columnar cells. (Hematoxylin and eosin X 100)