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Peripheral compound odontoma: A rare case report

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Abstract
Odontomas are the most common odontogenic tumors. They are considered to be hamartomatous malformation rather than true neoplasm. They develop from epithelial and mesenchymal components of the dental apparatus, producing enamel and dentin. Clinically, they may be classified as intraosseous and peripheral odontomas. Although most of the odontomas are asymptomatic, yet these are often associated with tooth eruption disturbances and malocclusion.

Keywords: odontoma, peripheral, compound

Introduction
Odontomas, one of the most common benign odontogenic tumors of epithelial and mesenchymal origin. They are considered actually as hamartomas or developmental anomalies composed of enamel, dentin, cementum and pulp tissue [1].
Peripheral or soft tissue odontomas, those arising in the soft tissue, are rare, judging from the paucity in the literature, or are rarely reported. This excludes those that were in the bone and subsequently erupted [2].
The aim of this article is to report clinical case of compound peripheral odontoma which be diagnosed and treated at the department of Medicine and Oral Surgery of the Dentistry Clinic of Monastir, Tunisia.

Case report
A 12 year-old male patient with no notable medical history; referred by the pediatric dentistry department for bone swelling in relation to the maxillary left lateral incisor.
The intraoral examination showed the presence of a circumscribed vestibular swelling next to the upper left lateral incisor. The lesion was asymptomatic and firm. The overlying gingiva had normal texture. We noted that the upper left lateral incisor was in palato-position and upper left canine was incompletely erupted. Fig.1
The panoramic radio showed the presence of a dense superficial image superimposed with the maxillary left lateral incisor. Fig.2
The alveolar radiograph revealed radio-opacity also superimposed with the maxillary left lateral incisor. Fig.3
There was not history of trauma or infection The detachment of a flap confirms dental elements only related to soft tissues. Anatomopathological examination of the specimen confirmed the diagnosis of a peripheral composed odontoma. Fig.4, 5 et 6.

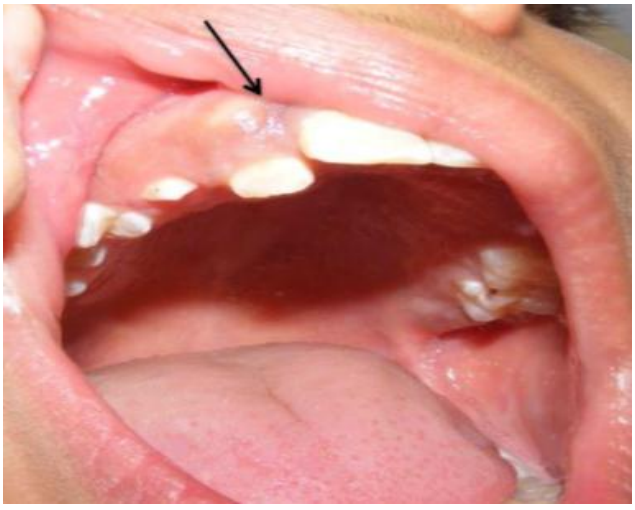

Fig 1

Fig 2

Fig 3

Fig 4

Fig 5

Fig 6

Fig 7

Discussion

The term "odontoma" was introduced by Paul Broca in 1867 to describe "tumors formed by the overgrowth of transitory or complete dental tissues [3. 4. 5, 6, 7].

Odontomas represent 22% of all odontogenic tumors of the jaws. They are considered to be hamartomas rather than neoplasms, and are composed of the tissues native to teeth: enamel, dentin, cementum and pulp tissue [8, 1, 6].

They can occur at any age, but are most common in the first two decades of life, with an average age of 14−18 years [1, 8, 6, 3, 9].

Odontoma commonly occur in permanent dentition and rarely reported associated with primary teeth, association of teeth with deciduous teeth is rare [6].

The World Health Organization defines odontomas as being of two types: complex and compound odontomas [4, 10, 3, 11, 8. 12, 13, 14].

Compound odontoma is defined as malformation in which all dental tissues are represented in a more orderly pattern than in the complex odontoma, so that the lesion contains many tooth like structures [1].

The compound odontoma has predilection toward the anteriormaxilla (61%), whereas only 34% of complex

odontomas occur in this area; the complex type shows a predilection for the posterior jaws (59%) and lastly the premolar area (7%) [3].

Clinically they are also classified as intraosseous and extraosseous odontomas. The intraosseous odontomas occur inside the bone and may erupt into the oral cavity (erupted odontoma). The extraosseous or peripheral odontomes are extremely uncommon, occurring in the soft tissue covering the tooth bearing portions of the jaws, having a tendency to exfoliate However, odontomas have been reported in the maxillary sinus, the sub condylar region, the cheek [2, 15, 3, 10, 11, 12].

Peripheral or soft tissue odontomas are extremely uncommon with about twelve compound odontomas reported in the related English literature, including the present case, as summarized. Odontoma in an extraosseous location represents a challenge for diagnosis [11, 12].

Their pathogenesis has been associated with a number of causes including trauma during primary dentition, inflammatory and infectious processes hereditary anomalies such as Gardner's syndrome, Hermann's syndrome, and basal cell nervous syndrome, odontoblastic hyperactivity, or alterations of the genetic components responsible for controlling dental development [3, 12, 8, 2].

They are usually asymptomatic and are often discovered during routine radiography [4].

Although swelling, pain, suppuration, bony expansion, and displacement of teeth have been rarely observed. They may be associated with impacted or unerupted teeth (in almost 50% of the cases), cysts, particularly a dentigerous cyst and rarely a central calcifying and keratinizing cyst, infections, and ameloblastic fibro-odontomas [4. 13, 3, 16, 8, 6, 15].

Odontomas has a limited, growth potential but it should be removed because it contains various tooth formulations that can predispose to cystic change, interfere with eruption of permanent teeth and cause destruction of bone [6].

There are three developmental stages based on the radiographic appearance and the amount of calcification present at the time of discovery. The first stage is radiolucent because of the lack of calcification of dental tissue components. In the intermediate stage, there is partial calcification. The third stage is classically radiopaque with predominant calcification of tooth like structures (compound) surrounded by a thin radiolucent halo [2, 12].

The treatment of choice is surgical removal of the lesion in all cases. The prognosis after treatment is very favorable. Recurrence is not described [8, 3, 4].

The differential diagnosis of a mature soft tissue odontoma would include a foreign body embedded in the gingiva, a soft tissue osteoma, or superimposition radiographically such as a phlebolith, sialolith, or cutaneous calcification. Other odontogenic tumors and lesions like peripheral ameloblastoma, calcifying epithelial odontogenic tumor, adenomatoid odontogenic tumor, peripheral epithelial odontogenic tumors or hamartomas and calcifying epithelial odontogenic cysts may occur peripherally [2, 7].

The histological examination is mandatory for an accurate diagnosis. Analysis showed that the tooth-like structures were composed of enamel, dentin, pulp chamber, and cementum. These structures were surrounded by thin epithelium and embedded in dense fibrous connective tissue, demonstrating their peripheral origin [11, 12].

The histogenesis of this type of odontoma has been associated with soft tissue remnants of the odontogenic epithelium such as gingival rests of Serres, which seem to retain the ability to pursue epithelial-mesenchymal interactions that could lead to odontoma formation [11].

However, it is necessary for dentists to be aware that peripheral odontomas, if not removed early, may enlarge over time and eventually erupt in the oral cavity. Moreover, it is important to note that the increased tooth mobility caused by these lesions may result in the spontaneous exfoliation of these denticles [11].

Conclusion

The role of the dentist is essential in the diagnosis of these lesions as most of these occur at a stage where early treatment becomes essential to prevent deleterious effects on the developing dentition and to provide a satisfactory, stable occlusion [17].

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