

An erupted compound odontome - a rare occurrence

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Dear Editor,

Odontome in very rare instances erupts into the oral cavity. It was Rumel et al in nineteen eighty who first explained a case of an erupted odontome. Paul Broca in 1867 first used the phrase odontoma and defined it as tumors produced by the excessive growth of complete dental tissue (1). The phrase "odontoma" refers to any tumor of odontogenic origin. They are considered as developmental abnormalities rather than a true neoplasm (2). The likely etiologies proposed are local trauma, genetic susceptibility and infection (3).

The proliferation of the dental lamina or its remnants in huge amounts gives rise to Odontome. The syndromes associated with odontome are Gardner's syndrome or the rare odontome dysphagia syndrome (4). Odontome can appear at any age and at any location intra orally. They are usually encountered in the first three decades of life and are infrequently seen in the primary set of teeth (5).

Odontomes are usually symptomless and identified inadvertently during regular dental radiographical examination. The eruption of the odontome into the oral cavity is unusual (6).

Odontomes are of 2 types: compound type resembling teeth and complex odontomes have no resemblance to teeth. The anterior maxilla is believed to be the farthest common location for compound odontomes and complex odontomes are typically found in the posterior mandible. Compound odontomes when compared to complex odontomes are twice as commonly observed (7). Even though there are many well documented cases of odontomes in the scientific literature, eruption of odontoma in the oral cavity is unusual and is therefore highlighted in this case report.

A young male patient of twenty-five years of age came to the Department of Oral Medicine and Radiology with the

complaint of partially erupted tooth in the upper front region of the jaw since five years. Familial, medical, and dental histories were unremarkable. There were no abnormalities detected in the extra oral region. On examination of the oral cavity, partially erupted left lateral incisor was noticed. Only the incisal edge of the impacted tooth was visible. A provisional diagnosis of partially impacted left maxillary lateral incisor was made after analyzing the clinical findings. Intraoral periapical radiograph of the same region revealed presence of radiopaque globular masses arranged in the form of bunch of grapes (Figure 1a and b).



Figure 1a and b. Clinical photograph of patient showing partially erupted tooth and Intra oral periapical radiograph showing radiopaque globular masses and impacted lateral incisor

A distinct layer of enamel and dentin was present. An impacted lateral incisor was also found located apical to the globular mass surrounded by a normal follicular space. After the interpretation of the intra oral periapical film, a radiographic diagnosis of compound composite odontome was made. The area was then surgically explored under local anesthesia and the globular calcified mass was excised. The histopathological examination of Haematoxylin and Eosin stained decalcified sections showed normal appearing dentinal tubules surrounding the pulpal tissue (Figure 2a and b). A confirmed diagnosis of compound odontoma was made. Patient was advised for orthodontic treatment for the correction of impacted lateral incisor.

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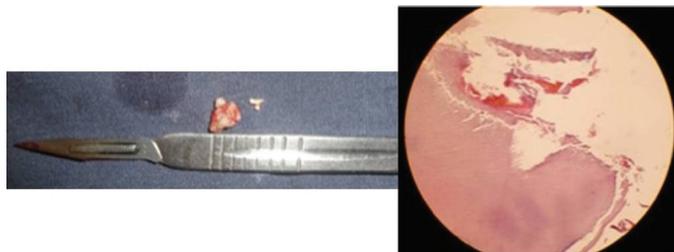


Figure 2a and b. Image of gross surgical specimen and Histopathological view showing presence of calcified mass resembling dentine and well differentiated pulp chamber

The exact cause of odontome is not known, but has been accredited to numerous factors like trauma, infections, Gardner's syndrome and modification in the genetic module which is required for guiding development of dental structures (3). Thoma and Goldman in 1946, formulated a grouping for odontomes which comprises of geminated composite odontomes which describes merging of more than two completely developed teeth, compound composite odontomes which are made up of small rudimentary teeth, complex composite odontomes which are calcified structure with no likeness to normal appearance of tooth, dilated odontomes where the crown or root shows evident enlargement and cystic odontomes where the Odontomes are encircled by fibrous connective tissue in a cystic space (8).

Based on this classification, the case reported here falls under the compound composite odontome as the calcified mass was made up of more or less undeveloped teeth.

According to Gabriel Serra-Serra et al in their report stated that since 1980 only seventeen cases of erupted odontomes were documented in the scientific literature. They also reported three cases in the same report making the total number of erupted odontome cases to twenty. Among the twenty reported cases of erupted odontoma, nine were compound odontomes and eleven were complex odontomes (9).

The most common signs and symptoms encountered when an odontome erupts into the oral cavity are pain swelling and malocclusion. Repeated infection after the odontome erupts into the oral cavity has also been reported (6). In the case presented here, the presence of the odontome resulted in impaction of the permanent lateral incisor.

The mechanism of eruption of the odontome is different from that of the eruption of the tooth. Periodontal ligament is required for the eruption and the odontome lacks this ligament (10).

Radiographically, odontome appears as a well-defined radiopacity within the confinement of the bone with the density being higher than that of bone and equal to or higher than that of a tooth bounded by a radiolucent halo. The radiolucent halo is the connective tissue capsule present in a normal tooth follicle (9). In the case reported here, numerous dense radiopaque configurations were noticed protruding through the anterior maxillary bone with clear demarcation between the enamel, dentine and the pulp. The choice of treatment is removal of the lesion through surgical intervention followed by histopathological analysis to establish the diagnosis. Surgical excision of the lesion was performed in our case too and the excised mass was sent for histopathological analysis, which confirmed the radiographic diagnosis of compound odontome.

To conclude, a rare case of erupted compound Odontome into the oral cavity has been reported in this case report. The important aspect in this case was the hindrance which the odontome caused in the eruption of the permanent lateral incisor tooth. Therefore, it is suggested to carry out routine radiographical examination in cases where teeth are not erupted completely.

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