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Erupted Odontomas: a Rare Case Report

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ABSTRACT

Odontomas are benign lesions composed of the varying elements that make up a tooth. They seem to represent a local overgrowth of tooth forming tissue and are not considered by most authorities to represent neoplasms. They are hamartomatous lesions rather than true neoplasms. WHO classifies odontomas into: compound and complex odontomas. These are composed of more than one type of tissue and hence termed as composite odontoma. The compound odontoma is a malformation in which all the dental tissues are in a more orderly pattern so that the lesion consists of many tooth-like structures. Odontomas erupting into the oral cavity are rare. The first case was published in 1980, and since then only 17 cases have been reported in the literature. Eight of the 17 cases were complex odontomas; the rest were compound odontomas. This is a case report of a compound- complex odontoma, occuring in between the maxillary central incisors, which reported to Thai Moogambigai Dental College and Hospital.

KEYWORDS:

Introduction:
Odontomas are mixed odontogenic tumors in which both the epithelial and mesenchymal components undergo functional differentiation and form enamel and dentin. They are hamartomatous lesions rather than true neoplasms. WHO classifies odontomas into: compound and complex odontomas. These are composed of more than one type of tissue and hence termed as composite odontoma. The compound odontoma is a malformation in which all the dental tissues are in a more orderly pattern so that the lesion consists of many toothlike structures. When-these calcified dental tissues are simply an irregular mass, bearing no morphologic similarity even to rudimentary teeth, they are termed composite complex odontoma.

This is a case report of a large compound- complex odontoma, occurring inbetween the maxillary central incisors. Odontomas erupting into the oral cavity are rare. The first case was published in 1980, and since then only 17 cases have been reported in the literature. Eight of the 17 cases were complex odontomas; the rest were compound odontomas.

Case history:
A 11-year-old male patient came to the department of Pedodontia with the complaint of a irregularly placed tooth in the upper front tooth region. On intraoral examination, there is a gap in between two central incisors. In the gap we can see the tooth malformation. Radiological examination revealed a mixed radio opaque and radiolucent lesion in relation to maxillary central incisors. A provisional diagnosis of an odontoma was made based on the radiological findings and excisional biopsy of the same was planned under local anesthesia.

Surgical procedure:
Adequate local anesthesia was achieved using Xylocaine (2%) with adrenaline (1 :80,000) for the procedure. A Trans alveolar extraction was done. A confirmatory radiograph was taken intraoperatively to determine complete removal of the tooth. By correlating the clinical, radiological and histopathological findings, a definite diagnosis of odontoma (with both compound and complex features) was made. A follow up was done periodically and healing was uneventful.

Histopathologically, odontomas are composed essentially of mature dental tissues-that is enamel, dentin, cementum, and pulp tissue and may be arranged in discrete tooth like structures (compound odontoma) or as unstructured sheets (complex odontoma). The bulk of the tumor usually consists of dentin that is normal in appearance. There is a fibrous capsule and a small amount of supporting fibrous tissue. So called ghost cell keratinization is occasionally seen in the enamel-forming cells of some odontomas.

Paul Broca was the first to coin the term "odontoma" in 1867. 0dontomas are mixed odontogenic tumors in which both the epithelial and mesenchymal components undergo functional differentiation and form enamel and dentin. The enamel and dentin are laid down in an abnormal pattern because the organization of the odontogenic cells fails to reach a normal state of morphodifferentiation. The lesion presented here had a complex odontoma mass and two tooth-like structures present inbetween the maxillary laterals - both resembled a mesiodens. This suggests that the epithelium of this lesion has the potential to form both tooth like structures (compound odontoma) and complex mass of dental tissue (complex odontoma).

Local trauma and infection have been suggested to be an etiologic factor for these lesions. A genetic predisposition by inheritance, mutant gene or interference has also been suggested. It arises from, an exuberant proliferation of the dental lamina or its remnants and is termed laminar odontoma or forms as a result of multiple schizodontia i.e. a locally conditioned hyperactivity of dental lamina. It may also be associated with the Gardner's syndrome of intestinal polyposis or the rare odontoma dysphagia syndrome.

The most common location for compound odontomas is the anterior maxilla. There is general agreement that most cases of complex odontomas are found in the posterior mandible and that the second most common site is the anterior maxilla. Almost all odontomas are located intraosseously but they have occasionally been reported in extrosseous locations like the gingiva.

Most odontomas are asymptomatic and are observed during routine radiological examination, as in the present case. Radiographical investigation thus plays an important role in detection of such asymptomatic lesions like odontomas, residual cysts etc.

Occasionally, signs and symptoms relating to their presence and location are seen. Invaginated odontome results from invagination of part of the enamel organ into the crown of the developing tooth. The teeth may be grossly distorted or swollen, with a radiographic appearance of a tooth inside a tooth ('dens in dente'). A rare variety of tumor with overlaping histological features of both adenomatoid odontogenic tumor and complex odontoma has been reported. An odontoameloblastoma is an extremely rare odontogenic tumor that contains an ameloblastomatous component together with odontoma like elements.

As a result of the odontogenic nature, including epithelial and mesenchymal tissue, odontomas can develop cystic transformation into dentigerous cyst. This cyst results from the cystic degeneration of enamel organ after partial or total development of the

crown, cystic transformation of the follicle associated with the unerupted tooth may also occur when its eruption is impeded by the odontoma. Timely detection and surgical enucleation of odontoma followed by curettage is recommended to prevent complications such as tooth loss, cystic changes, bone expansion and delayed eruption of permanent teeth. Since asymptomatic lesions (generally with no associated pain) like odontomas, radicular cysts etc are usually detected in radiographs only; the importance of routine radiographic examination cannot be over emphasized. Prompt clinical decision making and treatment (usually in the form of surgical enucleation) is necessary. Although recurrences do not develop, since the epithelium attached to such structures has potential to proliferate and form dental tissues, it is necessary to completely enucleate the lesion with its lining.

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