CASE REPORT

Erupting Odontomes- Two Rare Case Reports

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ABSTRACT

Introduction: Odontomas are hamartomas of aborted tooth formation which account for 22% of the odontogenic tumors. They are usually asymptomatic, discovered on routine radiographs. The uncommon fact about the behaviour of odontomas, is their potential to erupt into the oral cavity causing pain, inflammation of the adjacent soft tissues, preventing eruption of teeth and infection associated with suppuration.

Case Report: In this we report two cases of odontomes erupting into the oral cavity which is rare entity and give rise to clinical manifestations.

Conclusion: This updated case report though based on the less number of erupting odontoma cases presented, confirms the distinctive entity

Keywords: Odontomas, radiographs, cementum, pulp tissue

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INTRODUCTION

Odontomas as is well known are the most common odontogenic tumors. The term odontoma is used to identify a tumor that is radiographically and histologically characterized by the production of mature enamel, dentin, cementum and pulp tissue.[1] These components are seen in various states of histodifferentiation and morphodifferentiation of the tooth.[1] The cells of the tissues in odontomas are normal but lack organization due to disordered expression and localization of the extra-cellular matrix molecules in the dental mesenchyme.

Odontomas are considered hamartomas. Their etiology is still unknown. These slow growing, benign tumours have nonaggressive behavior. Clinically, these are asymptomatic lesions often causing alterations in permanent or deciduous tooth eruption. They are usually incidental findings on radiographic examination. On an X-ray, compound odontoma is seen as radiopaque mass similar to the teeth bordered with the neighboring bone by a radiolucent zone.[2-4] Complex composite odontoma is manifested as a radiopaque mass with well-defined borders surrounded by a thin radiolucent edge.The latest classification by World Health Organization in 2005 suggests two main types of odontomas namely complex odontomas and compound odontomas. The compound odontome is found twice more commonly.[5] These are also classified as:

- Intraosseous — these odontomas occur inside the bone and may erupt (erupted odontoma) into the oral cavity.
- Extraosseous or peripheral — odontomas occurring in the soft tissue covering the tooth-bearing portions of the jaws.

The uncommon fact about the behaviour of odontomas, is their potential to erupt into the oral cavity. The first case was reported in English literature in 1980 by Rumel et al.[6] A review of literature by Litonjua et al. in 2003 covering literature from 1980 to 2003 recorded only 14 cases in English literature.[3-4] This exceptional circumstance in which spontaneous eruption of an odontoma into the oral cavity occur causes pain, inflammation of the adjacent soft tissues,

preventing eruption of teeth and infection associated with suppuration. In this report two cases of odontomes erupting into the oral cavity are discussed.

CASE REPORT-1

An 18 year old male reported to department of oral medicine and radiology with the chief complaint of pain and swelling in the left upper posterior region since 6 months. The pain was of dull in intensity and intermittent in nature. The patient was moderately built and moderately nourished. There were no signs of pallor, icterus, cyanosis, clubbing, koilonychias. All his vital signs were within normal limits. On clinical examination, a hard, yellowish-brown and dental tissue-like mass was seen in left upper 2nd molar region. The buccal and lingual cortices were expanded and hard. The complementary radiological tests showed large, irregular, well defined radiopaque mass about 4 cm in diameter distal to 26, along with agenesis of the second and third molars of the same quadrant.{Fig. 2} The diagnosis of complex odontoma was made. The CT scan revealed the opaque lesion causing expansion of both the buccal and lingual alveolar plates. Some slight perforation of alveolar bone was also observed (Figure-3). The differential diagnosis contemplated radiopaque lesions located at pericoronal level: adenomatoid odontogenic tumor, calcifying epithelial odontogenic tumor, odontoameloblastoma, ameloblastic fibrodentinoma, and osteoma. The treatment consisted of surgical removal of the lesion followed by histopathological study, which confirmed the diagnosis of complex odontoma..

CASE REPORT-2

A 29 year old male came to the oral medicine and radiology with complaint of pain in right lower back region since 7 months along with pus discharge from the same region. The patient was moderately built and moderately nourished. All his vital signs were in normal range. On examination, a tooth like irregular structure was seen distal to 47 (Figure-1). The surrounding mucosa was inflamed and red. The lower right third molar was absent clinically. The buccal vestibule was slightly tender. The patient was subjected to radiological examination for this unique lesion. The panoramic radiograph revealed irregular globular like radiopaque lesion of size 2 cm by 1 cm which was encapsulated in nature. It was impacting the eruption of 48 teeth which was pushed towards the lower border of the mandible by the erupting mass (Figure-2). The patient was then subjected to CT scan for determining the extent of the lesion. It revealed slightly expansion of both cortical plates (Figure-3). The incisional biopsy was performed which revealed the complex odotome seen in place of 48. So a rare case of erupting odontome was diagnosed. The lesion was then excised along with extraction of right lower third molar.

DISCUSSION

Odontomas are benign calcified odontogenic tumours. The odontomas constitute about 22% of all odontogenic tumors of the jaws.[5] In this report, we are discussing the case of erupting odotomes which are very less in number and only few cases has been reported in literature. The first case of an erupted odontoma was described in 1980 by Rumel et al.[6] and since then only 20 cases have been documented in the literature out of which 9 are complex and 11 are compound. The etiology of odontome is unknown yet reports have suggested local trauma, infection and genetics as possible etiology. It arises mostly as exuberant proliferation of the dental lamina or its remnants and is termed as laminar odontoma. It is also sometime seen as result of multiple schizodontia i.e. a locally conditioned hyperactivity of dental lamina.[7] Odontome has been found associated with the Gardner's syndrome and the rare odontomadysphagia syndrome. Hitchin[8] suggested inheritance pattern with possible post natal mutation in gene or interference with genetic control of tooth development. The lamina between the teeth usually degenerates into clumps of cells and its persistence may be an important factor in its etiology. These are usually asymptomatic lesions, and in most cases they are associated to alterations in permanent or temporary tooth eruption. Their eruption into the mouth can give rise to pain, inflammation and infection. As in this case, there is alteration in the

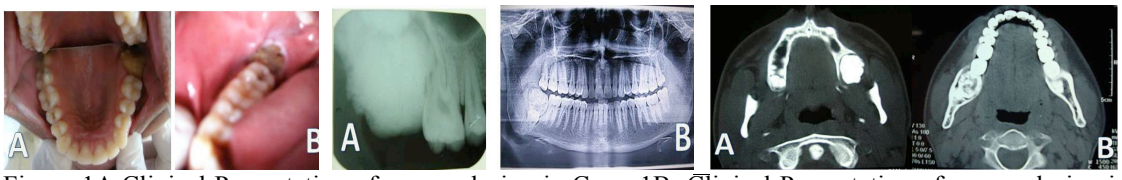

Figure-1A:Clinical Presentation of opaque lesion in Case; 1B: Clinical Presentation of opaque lesion in Case 2;Figure-2A: Case 1- IOPA showed large, irregular, well defined radiopaque mass; 2B: Case 2- Panoramic radiograph revealing irregular globular like radiopaque lesion; Figure-3A & B: CT scan of Case 1 and 2 showing the opaque lesion causing expansion of both the buccal and lingual alveolar plates.

eruption resulting in the impaction of 48 along with pain along with agenesis of 27 in other case. Impaction and/or altered eruption occurs because the odontoma obstructs the eruptive trajectory of the teeth.[4,9] Unlike with most odontomas, the above cases show the odontomas which erupt into the oral cavity and which gave rise to moderately serious conditions – particularly in the presence of overinfection of the lesion. The early diagnosis and removal of an erupting odontome is necessary as the eruption of an odontoma through the mucosa could also allow invasion of oral microorganisms into the bone due to lack of adequate adhesion between bone and odontoma resulting in the infection which may lead to abscess formation or osteomyelitis of the bone. Also there is no root formation in odontoma, its increasing size may lead to the sequestration of the overlying bone along with increase in the size produces a force sufficient to cause bone resorption. This mechanism may also suggest the eruption of odontoma into oral cavity. Another reason for odontoma eruption could be the bony remodeling of the jaws.[10] However, for this to occur dental follicle is required, although indirectly, as it provides both the conductance and chemoattraction for the osteoclasts necessary for tooth eruption. Also the reactive growth of the capsule surrounding the lesion contributes to this phenomenon. The odontoma can grow in place of tooth as in case of our first case where odontoma was seen in place of 27 suggesting that genesis of odontoma and eruption lies in follicle of the tooth which somehow explains the above said mechanism. However, the mechanism behind the eruption times remains uncertain as some odontomas erupt at a young age and others at an older age. Erupted odontomas are most often seen in older people.[4] Eruption at a young age is possible through bone remodelling that might have resulted from the presence of dental follicles. In our cases both the patients belong to younger age groups suggesting that remodeling of bone occurred due to presence of dental follicles. In our case study, we present a mature complex odontoma, which should be differentiated from cementoblastoma, osteoid osteoma and fibro-osseous lesions, such as cemento-ossifying fibroma. After removal of overlying odontoma, the impacted teeth should be kept under observation for three months. If there is no expectation of eruption, the teeth should be extracted. But in this case as the impacted tooth was associated with 48, the tooth was extracted as to prevent the possibility of cystic degeneration. As the possibility of formation of dentigerous cysts, odontogenic keratocysts and calcifying odontogenic cysts in association with odontomas has been reported.[5] The commonly accepted treatment is surgical removal of the odontoma, followed by histological examination. If odontomas are associated with impacted tooth, we should wait for spontaneous eruption, or eruption by orthodontic traction should be the standard protocol of treatment.

CONCLUSION

So the dentist should be aware of this condition which always been diagnosed as a radiographic incidental finding till now. This erupting odontome is uncommon and rare entity that is presents itself as pain and infection with tooth like mass present in place of tooth.

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