

A 15-year-old boy with an unerupted tooth enclosed by dentigerous cyst associated with odontome

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Abstract

Odontoma are the most common benign odontogenic tumor of epithelial and mesenchymal origin. Usually a conservative approach is the standard treatment protocol for this. Odontoma associated with unerupted tooth and odontogenic cyst aggravates the existing condition. Generally, expansible nature of cystic lesions require surgical excision which is different from isolated non-symptomatic odontomas that can be monitored by periodic radiological examination. There is inadequate evidence on the presence of odontoma-associated cystic lesions in the oral cavity. Therefore, the present case report is aimed at describing the diagnostic clinical, radiological, and histological features together with the surgical management of a dentigerous cyst associated with a compound odontoma. The lesion was surgically removed. No recurrence was observed after 12 months of follow-up.

Keywords: Odontome, Dentigerous cyst, Delayed eruption.

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Introduction

WHO classified odontomas as odontogenic tumour considered mainly as hamartomatous lesion rather than true neoplasm. They are more likely developmental malformation¹ and usually linked with an unerupted tooth.² Clinically odontomes are usually asymptomatic but may be presented with the complaints of unerupted tooth, swelling, displacement of erupting teeth.³ Odontomas are most commonly observed in patients during their second decade of life, with no apparent gender susceptibility, being equally distributed in males and females.

Radiologically, odontome presented as radiopaque lesions having protuberant margins enclosed by a thin radiolucent zone. Compound odontoma radiographically displays well-ordered abnormal teeth or tooth-like structure while complex shows an irregularly shaped oval radio-opacity bounded by a distinct thin radiolucent rim. Radicular cyst are the most common cystic lesions and the frequent cause of chronic swelling of the jaws.⁴ Most frequently located in the maxillary anterior region. Radiologically, the cyst appears as radiolucent area around the apex of a tooth root which is circular or ovoid in shape.

The border of the cyst is seen as a narrow opaque margin continues with the lamina dura. Usually unilocular.⁵ A tooth that is prevented from erupting into its normal functional position by bone, tooth, fibrous tissue or due to any abnormality is termed as impacted tooth.

Description

A 15 years old male patient came to the Department of Pedodontics, Bangabandhu Sheikh Mujib Medical University (BSMMU) with the complaints of delayed eruption of upper front tooth and intra-oral hard swelling with no pain. History revealed that swelling was insidious in onset which gradually increased and attained the present size. There was no history of fever, trauma, bleeding or pus discharge related with the swelling. The past medical and family history was not contributory. On extra-oral examination, there was no mid facial asymmetry. Intraorally, a solitary swelling was present in the left maxillary labial gingival and labial vestibular region, measuring approximately 1.5x1.5 cm. On palpation, swelling was nontender, noncompressible, non-pulsatile, not depressible and hard in consistency with expansion of labial cortical regions. Tooth 21 was missing (Federation Dentaire Internationale notation). Intra-oral peri-apical (IOPA) radiograph findings included the presence of large unilocular radiolucency extending from midline to tooth 22 with well-defined radio-opaque borders and multiple radio-opaque masses. Orthopantomogram (OPG) confirmed IOPA findings but failed to add further information.

Management

Marsupialization treatment was planned. After administration of local anaesthesia mucoperiosteal flap raised carefully to keep the cystic wall intact. The underlying bone and cystic wall exposed through the window. Odontomes were removed then careful removal of the cystic wall. After proper removal of any residual tissue remnants, copious irrigation of the operative site. Dried the operative field for the placement of titanium button. Then button bonded on the labial surface of the exposed crown of 21 and ligature wire attached with the button for active pressure application to hasten the process of eruption. The flap was sutured back. Radiograph was taken post-operatively to check for eruption of tooth 21. The patient is under follow-up.

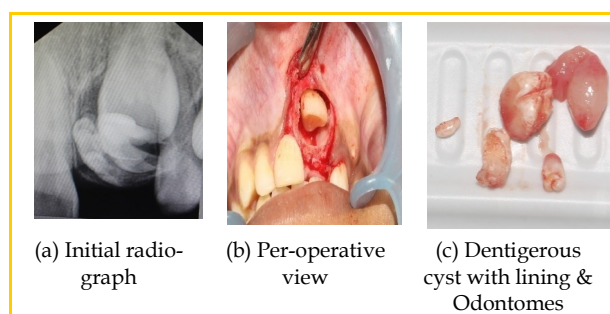


FIGURE I Images of the lesion

Discussion

The present report described the surgical management of odontoma associated with a cystic lesion. Odontomas are odontogenic in nature, as they derive from the epithelial and/or mesenchymal tissues from which the teeth originate and can induce cystic proliferation.⁶ Clinically, odontomas can present as intraosseous or extraosseous lesions.⁷ In the present case, the lesion was classified as intraosseous, being limited to the buccal cortical plates of anterior region of maxilla. Dentigerous cyst is developmental in origin, mostly associated with an unerupted tooth or rarely with an odontoma. When they occur concurrently, it is possible to observe a combined lesion, increased in size, with the potential to expand towards noble structures.⁸

Typically, treatment of odontomas involves surgical removal whereas therapeutic strategies reported for dentigerous cysts range from marsupialization to enucleation. This complies favourably with the therapeutic plan adopted in the present report where surgical removal of the lesion was considered as the treatment of choice. Conversely, marsupialization is more commonly used in children when compared to enucleation because it is surgically less invasive and preserves the eruption of permanent teeth. Other factors favouring marsupialization include young age, lack of patient compliance for more invasive surgical treatment, tooth position and development and eruptive potential.^{9,10}

In the present case, the odontoma was associated with another cystic features of dentigerous cyst. In this regard, a dentigerous cyst could have been probably the result of cystic degeneration and had to be chosen as the diagnostic hypothesis. That was confirmed after surgical removal of the lesion, as the histopathological

analysis showed odontoma associated with a dentigerous cyst. Despite their benign nature, these lesions should be completely removed to avoid secondary complications and possible sequelae for the patient. As a matter of fact, no recurrence was observed after 12 months of follow-up.

Conclusion

Simultaneous occurrence of pathologies like odontoma and dentigerous cyst with unerupted tooth is a matter of diagnostic dilemma so, proper evaluation with follow up is advocated.

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Authors Contribution

The work was carried out by the authors themselves. Case presentation, provisional and differential diagnosis, treatment plan and final procedure with final diagnosis carried out in the Department of Pedodontics, BSMMU.

Conflict of Interest

We don't have any conflict of interest.

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