Dentigerous Cyst of Mandible with Multiple Complex Odontomes

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Introduction

Odontomas are non-aggressive, hamartomatous developmental malformations or lesions of odontogenic origin which consist of enamel, dentin, cementum and pulpal tissue (hence, they are also called composite i.e. consisting of multiple or more than one type of tissue) and constitute 22% of all odontogenic tumors [1]. Two types of odontomas are recognized – compound and complex. Compound odontomas consist of encapsulated, discrete, small tooth-like structures or denticles in a fibrous connective tissue stroma. Complex odontomas on the other hand, consist of an irregular mixture or mass of mature hard and soft dental tissues which are poorly differentiated as enamel, dentin or cementum and hence have no resemblance to teeth [2].

The etiology of odontomas is unknown but genetic factors and environmental causes such as trauma and infection have been proposed. Most odontomas are discovered during the first two decades of life and there is no significant gender predilection. They often remain asymptomatic and undiscovered until revealed by routine radiography where they characteristically appear as dense, radiopaque masses [3]. Sometimes clinical indicators of their presence may include bone expansion, pain and tooth displacement or unerupted normal teeth. Enucleation is curative and recurrence is not a problem.

We report a rare case of multiple complex odontomas in a 58 year old man, associated with a large dentigerous cyst of the anterior mandible, which was managed surgically. The unusual site of occurrence, age and manner of presentation and its association with a dentigerous cyst makes it interesting.

Case Report

A 58 year old ex-serviceman presented with an abnormal tingling sensation of the right side of the lower lip and chin

for the past five months. Intra oral examination revealed a single, localized, mildly tender, bony hard swelling (approx. 2 x 1 cm) in the right lower buccal vestibule in relation with the premolar teeth. The teeth were vital and otherwise asymptomatic with no carious, periapical or periodontal involvement. The patient was healthy with an unremarkable medical history.

Radiographs included orthopantomogram (Fig. 1), posteroanterior view of mandible, lateral oblique view mandible and intra oral periapical and occlusal views. Radiographs revealed two complex odontomes – a small one (around 75mm in diameter) periapical to the left lateral incisor and a larger (around 194 mm in diameter) periapical to the right premolars which was associated with a large ovoid well defined radiolucency (approx. 3 x 2.5cm) in the right parasymphysis region extending to the body of the mandible. The differential diagnosis of the radiopacities included periapical cemental dysplasia and benign cementoblastoma.

Aspiration from the swelling yielded yellowish cystic fluid. An incisional biopsy of the cystic lining from the bony cavity was sent for histopathological examination which confirmed the diagnosis of dentigerous cyst in association with the complex odontome.

The lesion was treated with complete enucleation of the dentigerous cyst and surgical removal of the two odontomes under local anaesthesia (Figs. 2,3). A full thickness mucoperiosteal flap was reflected, exposing the anterior aspect of the lesion including the previously biopsied area. The cyst was enucleated taking care not to leave any trace of the cyst lining in order to eliminate chances of possible future recurrence. The two odontomes were removed without disturbing the teeth above them. The flap was repositioned and sutured. This histopathological report confirmed the diagnosis of complex odontoma in association with dentigerous cyst (Fig. 4).

Discussion

Odontomas are non-aggressive, hamartomatous malformations of odontogenic origin which are usually

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Fig. 1 : Orthopantomogram showing a well-defined radiolucency in relation to two complex odontomes in parasymphysal region of mandible.

Fig. 2 : Bony cavity after surgical removal of the two odontomes and enucleation of the dentigerous cyst.

asymptomatic and discovered accidentally on radiographs. On rare occasions, dentigerous cysts may develop in association with these lesions, which justifies their removal and radiographic follow up for new cyst development.

Although odontomas may be found in any tooth-bearing region of the jaws, majority of the complex odontomas are found in the posterior mandible, followed by the anterior maxilla and is usually discovered before the second decade of life [4]. The present case is rare because of mandibular localization, age of presentation and the occurrence of surrounding dentigerous cyst.

The dentigerous cyst, also known as the follicular cyst arises from the follicle of a tooth germ or unerupted tooth or rarely an odontome, enclosing the same within it. It develops by the cystic degeneration of the epithelial component of the enamel organ and the resultant fluid accumulation between the reduced enamel epithelium and enamel of the tooth.

In addition to their potential for attaining large size

Fig. 3 : The two odontomes after removal.

Fig. 4 : Photomicrograph of complex odontoma showing haphazard mixture of mature dental tissues in a fibrous connective tissue stroma. (H & E, x 100).

and destroying the jaw bone, these cysts are capable of causing resorption of roots of adjacent teeth with neoplastic changes such as ameloblastoma or carcinoma within isolated segments of the cyst wall. The potential for neoplastic change and invasion beyond the cyst wall justifies complete enucleation of the dentigerous cyst and its histopathological examination.

Conflicts of Interest

None identified

References

1. Wood NK, Goaz PW, Lehnert JF. Differential diagnosis of Oral and Maxillofacial lesions. St Louis : Mosby, 1997: 415-32.
2. White SC, Pharoah MJ. Oral Radiology principles and Interpretation. St Louis : Mosby, 2004: 410-56.
3. Regezi JA, Sciubba JJ. Oral Pathology : Clinical Pathologic Correlations, 3rd ed. Philadelphia: Saunders, 1999 : 323-56.
4. Tomizawa M, Otsuka Y, Noda T. Clinical observations of odontomas in Japanese children : 39 cases including one recurrent case. Int J Paediatr Dent 2005;1: 37-43.