Cementoblastoma in the Maxilla : A Rare Case Report

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Abstract

Benign cementoblastoma is a rare odontogenic tumor characterized by the formation of a mass of cementum or cementum-like tissue attached to the roots of a tooth. Cementoblastoma are distinctive but relatively uncommon tumors. The benign cementoblastoma should be distinguished from non-neoplastic processes that may also produce a radiopaque lesion around the root apex, such as periapical cemental dysplasia or condensing osteitis. The clinical, radiographic and histo-pathologic features of a case of benign cementoblastoma are presented in this paper along with a brief review of the literature.

Key Words: Cementoblastoma, Odontogenic tumor, Radio-opaque mass.

Introduction

The cementoblastoma has been classified as a benign tumor of odontogenic origin derived from ectomesenchyme. It is an uncommon tumor comprising less than 0.69%-8% of all odontogenic tumors.[1,2] The World Health Organization has classified benign cementoblastoma and cementifying fibroma as the only true cemental neoplasms.[3,4] The tumors arises mostly in the permanent dentition with a few incidences being reported in primary teeth. The most common site for occurrence of cemento-blastoma is mandibular molar area with 50% of the cases involving the mandibular first molar teeth.[5] Symptoms may be totally absent and when they occur pain and swelling are frequent findings.[6] We report a case of a asymptomatic benign cementoblastoma associated with permanent maxillary second molar.

Case Report

A 47-year old female patient came to the Department of Oral & Maxillofacial Surgery with the chief complaint of swelling in right side of cheek since 2 months & also noticed swelling related to upper back tooth since 2weeks. The pain was a dull ache which was non radiating and intermittent in nature. She is k/c/o of hypertension and under medications for that. No relavent family history. On palpation intraoral swelling was bony hard in nature. Swelling was extended from second molar to maxillary tuberosity region both buccally and palatally. 15 and 16 were missing. The radiographic examination revealed an approximately three cm radiopaque mass which was attached to the roots of the right maxillary second molar, which was surrounded by a radiolucent periphery. After obtaining consent from the patient the attached tumour mass was removed surgically under G.A. and involved tooth was extracted. Palatal flap was placed and the specimen was sent for a histopathological examination. Micro-scopically, the lesion revealed a dense, irregularly lamellated, hypocellular cemental mass along with sparse fibrous connective tissue. A final diagnosis of cementoblastoma was made.

Discussion

The first case of cementoblastoma is reported by Norberg in 1930. According to WHO[7] benign cementoblastoma belongs tothe category of cementifying fibroma, periapical cemental dysplasia and gigantiform cementoma. Cementoblastoma is unusual in several aspects.

Most of the cases are diagnosed in patient younger than 20years. The age of the patient in this case is 47 years. The youngest patient reported was 5-year-old male5 and the oldest patient was 72 years old women.[9] Typically tumor is located in mandible and associated with the first mandibular molar. When lesions in the maxilla and mandible are grouped together, over 90% of cases affect a single tooth in the premolar-molar area.[10] However, the case has also been reported in mandibular anterior region involving multiple deciduous teeth.[8] In the present case, the lesion is associated with the maxillary second molar. Clinical examination reveals the swelling on right side of the face which is hard in consistency and mildly tender on palpation. Intraorally there was expansion of buccal and lingual, cortical plates. Panoramic radiograph shows round dense radiopaque mass attached to the roots of the right maxillary second molar surrounded by narrow radiolucent band.

On the basis of clinical & radiological examination, diagnosis of cementoblastoma was made. Other opaque lesion which share the same features include odontoma (not associated with the root), focal sclerosing osteomyelitis (margins are ill- defined) hypercementosis (not surrounded by the radiolucent band) are considered in differential diagnosis.

Associated teeth are vital but may be nonresponsive to pulp test probably indicating disruption of normal impulse transmission since the tumor tends to encompass the root apex. Pain, abnormal pulp test plus the radiographic features might suggest localized sclerosing osteomyelitis (condensing osteitis) but the consistent finding of a well-demarcated radiolucent border is the clue to true nature of the lesion.

The excisional biopsy reveals irregularly place lacunae and prominent basophilic reversal lines. Histologically cemento-blastoma shows sheets of cementum like tissue, sometimes resembling econdary cellular cementum. Reversal lines scattered throughout this calcified tissue are often quite prevalent. There is variable soft tissue component consisting of fibrillar, vascular and cellular elements. The lesion is frequently icroscopically indistinguishable from the benign osteoblastoma or giant osteoid osteoma. The hallmark of benign osteoblastoma consist of the 'vascularity to the lesion with many dilated capillaries scattered throughout the tissue', 'the moderate numbers of multinucleated giant cells scattered throughout the tissue' and 'the actively proliferating osteoblasts which pave the irregular trabaculae of new bone'.

Slootweg[11] as confirmed that the histological features of osteoblastoma and cementoblastoma are indistinguishable apart from the attachment of cementoblastoma to the root of the tooth. If not recognized by the clinical and other features, the highly active cellular appearance and pleomorphism of the cells, particularly at the periphery, a cementoblastoma can be mistaken for an osteosarcoma. However, cementoblastoma cells though not readily distinguishable from osteoblasts or osteoclasts, do not show mitotic activity.

Other lesion that might be considered in differential diagnosis is osseous dysplasia, ossifying fibroma, osteoma, hyper-cementosis, chronic sclerosing osteomyelitis, fibrous dysplasia, osteitis deformans and osteosarcoma. Careful consideration of the signs and symptoms in conjunction with the histological finding should lead to the correct diagnosis. No reports of malignant alteration exist in connection with the benign cementoblastoma.

Because of the apparent neoplastic nature of this process, complete excision of the tumor with the involved tooth is recommended. The prognosis of benign cementoblastoma treated as recommended is excellent with no recurrence having been reported.

References

References are available on request at editor@healtalkht.com

Legends

Fig. 1 Lesion with relation to 17
Fig. 2 OPG
Fig. 3 Specimen
Fig. 4 Palatal flap
Fig. 5 Postop two weeks

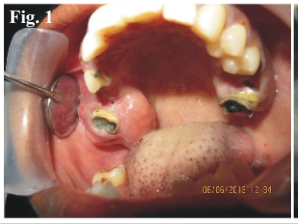
Fig. 1

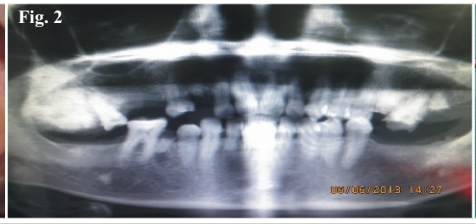
Fig. 2

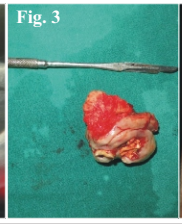
Fig. 3

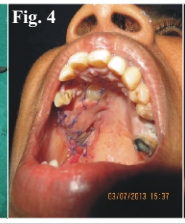
Fig. 4

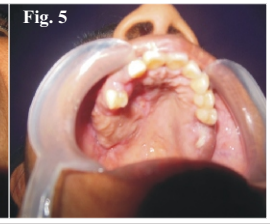
Fig. 5

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