SHORT COMMUNICATION

Benign cementoblastoma

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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 clinical, radiographic, and histopathologic 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 cementoblastoma 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 mandibular first molar.

CASE REPORT

A 42-year-old female reported to the Adhiparasakthi Dental College and Hospital with chief complaint of pain in the left lower back tooth for 2 weeks. The pain was dull and continuous in nature and reduced on taking analgesics. Her medical and family history was noncontributory. On intraoral examination the patient had a poor oral hygiene, generalized attrition, and grade II mobility in 36. The patient was referred to Department of Oral Surgery for extraction of periodontally affected 36. The tooth extraction was done by intra-alveolar technique. The extracted tooth showed a hard irregular mass attached to the mesial root of 36. The cavity was curetted and the wound closed primarily. The specimen was submitted for histological evaluation. Gross examination showed a noncarious left mandibular first molar with the apex of the mesial root embedded in an irregular spherical mass of tan hard tissue measuring 15 mm [Figure 1]. A radiograph of the specimen showed a radio-opaque mass attached to the mesial root of the teeth [Figure 2]. The specimen was fixed in 10% neutral formalin, subjected to decalcification in formic acid, bisected in a mesio-distal direction and then processed for light microscopic examination. Histopathology revealed decalcified section of tooth showing the physiological architecture of dentin along with a calcified tumor mass attached to the root of the teeth [Figure 3]. The calcified tumor mass was composed of sheets of cementum like tissue with lack of interstitial tissue [Figure 4]. Basophilic reversal line was seen [Figure 5]. After radiographic and microscopic evaluation a diagnosis of cementoblastoma was made. The treatment of choice for cementoblastoma is surgical removal. As the tooth has already been removed for dental reason no further treatment was done in this case. However, patient was asked to come for a follow-up but the patient never turned up.

DISCUSSION

Cementoblastoma also called as true cementoma was first recognized by Norberg in 1930.[3,7] Histologically, it is defined as a neoplasm characterized by formation of sheets of cementum like tissue containing a large number of reversal lines and lack of mineralization at the periphery of the mass or in the more active growth area.[5,7] This tumor primarily affects adults with a mean age of 20.7 years.[2,8,9] The male to female ratio has been reported to be 2.1:1 with a higher predilection for males.[1,2,8] The mandible is more involved than maxilla.[1] It is usually associated with roots of mandibular molar followed by mandibular premolar.[3,5,8,9] This tumor is also associated with multiple teeth, impacted molars and deciduous teeth.[3,9] The associated tooth is vital unless involved coincidentally.[7]

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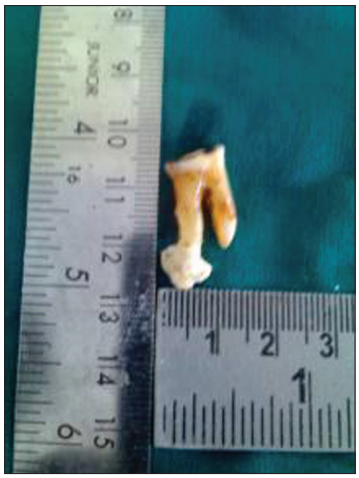

Figure 1: Gross specimen

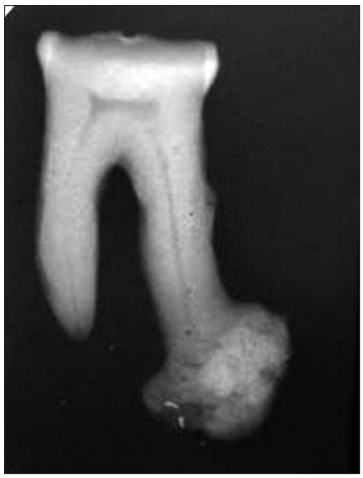

Figure 2: Specimen radiograph

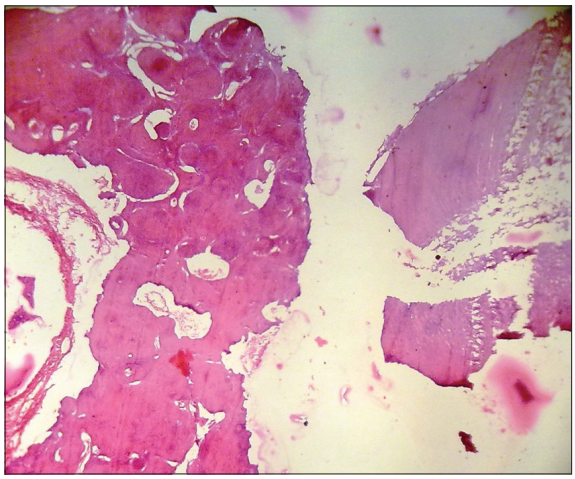

Figure 3: Dentin and tumor tissue (H and E, 10×)

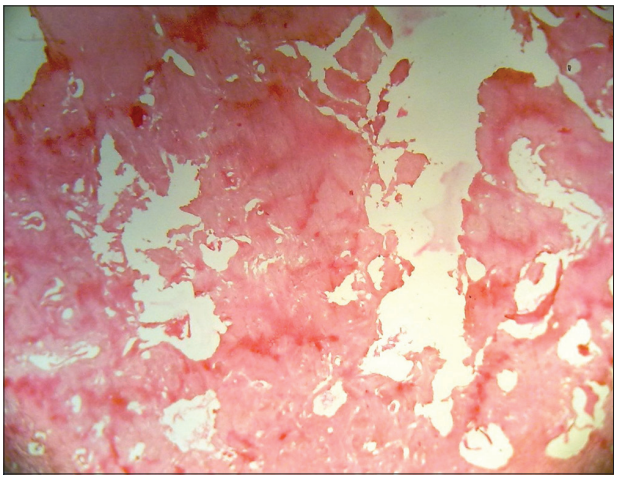

Figure 4: Calcified mass of cementum (H and E, 10×)

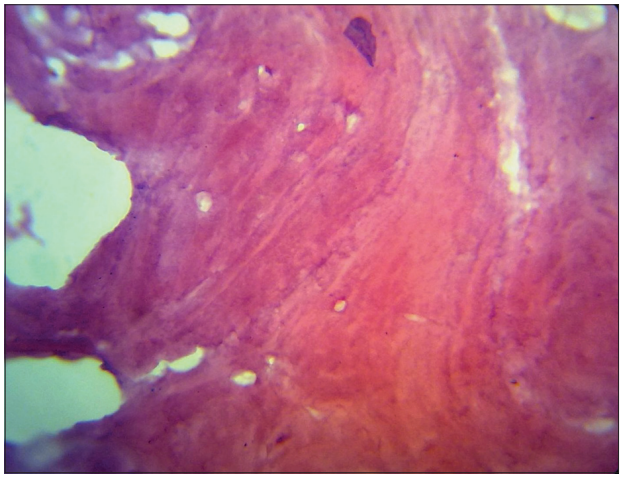

Figure 5: Basophilic reversal lines (H and E, 40×)

Cementoblastoma are usually asymptomatic including the one presented here and generally discovered upon radiographic examination. Cementoblastoma have unlimited growth potential.[10] It can also behave in a locally aggressive manner resulting in bony expansion, root resorption, displacement of adjacent teeth, and jaw deformity.[11] Jaw expansion and perforation of cortex was noted in high percentages in recurrent tumors.[9] Radiographically cementoblastoma presents as a round radiopaque mass confluent with the tooth root encircled by a thin radiolucent periphery fused with roots of a vital teeth.[5,9,11] The root contour is lost due to root resorption and fusion with the tumor.[1,8] The differential diagnosis for the periapical radiopacity includes condensing osteitis, osteoblastoma, odontome, periapical cemental dysplasia, and hypercementosis. Histologically, the tumor presents cementum-like tissue with numerous reversal lines. The present case had this characteristic feature. The prominent basophilic reversal lines may give a pagetoid appearance to the lesion. Multinucleated osteoclast type giant cells and plump cementoblasts may be present in the intervening fibrovascular stroma.[2,9] The periphery may show a band of connective tissue resembling capsule.[1] The histopathological presentation of osteoblastoma is identical to that of cementoblastoma and the primary distinguishing feature is tumor fusion with the involved tooth in the latter.[7,9,10] Appropriate treatment for this benign tumor should consist of removal of the tumor, along with the affected tooth and curettage or peripheral ostectomy.[8] In our case, the tooth was removed for dental

reason so no further treatment was required. Recurrence and continued growth are possible if lesional tissues are left behind after initial surgery.[11] Recurrence rate as high as 37.1% has been reported if there has been an incomplete excision.[8] Enucleation of the tumor through apicoectomy following root canal treatment with no recurrence during 4 year follow-up has also been reported.[12] An excellent prognosis is usually achieved after complete removal of the tumor.[2,5,7]

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