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BENIGN CEMENTOBLASTOMA: A RARE CASE REPORT WITH REVIEW OF LITERATURE

Dental Science

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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 root of a tooth. Cementoblastoma are distinctive but relatively uncommon tumors. The clinical, and histopathologic features of a case of benign cementoblastoma are presented in this paper along with a brief review of the literature.

KEYWORDS

Cementoblastoma, odentogenic tumor, tumor of ectomesenchymal origin.

INTRODUCTION

Cementoblastoma in the current W.H.O classification of odontogenictumor, is in the category oftumors of mesenchyme and/or odontogenicectomesenchymewith or without odontogenic epithelium.[1]The lesionwas first recognized by Noeberg in 1930.[2] The lesion isconsidered as the only true neoplasm of cementum origin. It generally occurs in young persons, comprises <1-6.2% ofall odontogenic tumor and is characterized as being attachedto the roots, most frequently associated with first permanentmolar.[3] The majority of these tumor are radiopaque, butradiolucent tumor may occur in rare instances. Histologically,it presents as a wellcircumscribed tumor composed ofcementum like tissue surrounded by a fibrous capsule. Symptoms may be totally absent and when they occur pain and swelling are frequent findings. Thesurgical enucleation en masse is the treatment of choice. Therecurrence rate is 21.7-37.1%.[4]I am reporting a case of asymptomatic benign cementoblastoma associated with permanent mandibular first molar.

CASE REPORT

A 42-year-old female reported to dental OPD 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 history was noncontributory. On intraoral examination the patient had a poor oral hygiene, generalized attrition, mobile and tender on percussion 36. Extraction of 36 was plannedand tooth extraction was done by intra-alveolar technique. Although the tooth was mobile, it poses difficulty during extraction. The extracted tooth showed a hard irregular mass attached to the roots. The cavity was curetted and the wound closed primarily. Gross examination showed a noncarious left mandibular first molar with the apex of the roots embedded in an irregular spherical mass of tan hard tissue. Figure 1.The specimen was submitted for histological evaluation.Histopathology revealed decalcified section of tooth showing the physiological architecture of dentin along with a calcified tumor mass attached to the roots of the tooth. The calcified tumor mass was composed of sheets of cementum like tissue with lack of interstitial tissue. Basophilic reversal line was seen. Figure 2. After 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.[2,7] 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] 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]Radiographicallycementoblastoma 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 periapicalradiopacity includes condensing osteitis, osteoblastoma, odontome, periapicalcemental 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 my 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]

FIGURES

Figure 1:Extracted tooth showing irregular hard mass attached to the roots.

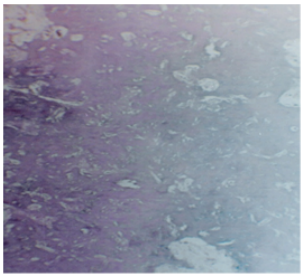

Figure 2:Microphotograph showing sheet of cementum liketissue with intervening loose fibrovascular connective tissuestroma.

CONCLUSION

Cementoblastoma is a benign tumor with a low recurrence rate but unlimited growth potential. Appropriate treatment consists of the surgical removal, and early diagnosis favors a more conservative surgery with the possibility of preservation of the involved teeth. In cases in which the tumor is detected in advanced stages of development, the teeth should be removed along with the tumor to decrease the possibility of recurrence.

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