Case Report

Benign cementoblastoma associated with primary mandibular second molar: A rare case report

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Abstract

Cementoblastoma is a rare benign odontogenic neoplasm of the jaws commonly occurring in the young age group. Here, we present a case of swelling associated with mandibular primary second molar. A provisional diagnosis of cementoblastoma was made based on the clinical and radiographic features. The lesion was surgically removed along with the associated primary mandibular second molar. Histopathological examination confirmed it as benign cementoblastoma. One-year follow-up was done, the healing was satisfactory and no signs of recurrence were observed.

Keywords: Benign, cementoblastoma, odontogenic, primary molar

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INTRODUCTION

The benign cementoblastoma is a relatively uncommon odontogenic neoplasm of the jaws. It was first described by Dewey[1] in 1927. This lesion is considered to be the only true neoplasm of cementum origin.[2] The benign cementoblastoma, which generally occurs in young persons, comprises <1%–6.2% of all odontogenic tumors.[2,3] It is characterized by a large mass of cementum or cementum-like tissue that is attached to the roots of an erupted permanent tooth and very rarely being attached to the primary tooth.[4] The symptoms may be totally absent, and when they occur, they usually involve pain and swelling. The vitality of the involved tooth is not damaged besides the occurrence of root resorption.[5] The lesion can be diagnosed by clinical and radiographic examination, but the final diagnosis is made histopathologically. The tumor has unlimited growth potential; therefore, the recommended treatment is complete enucleation of the tumor mass along with the involved tooth.

This case report describes a benign cementoblastoma that was attached to the distal root of mandibular primary second molar. The treatment included surgical enucleation of the lesion along with the involved primary tooth.

CASE REPORT

An 11-year-old female patient reported to the department of pediatric dentistry with the chief complaint of pain and swelling over the lower right back tooth region for 3 months. The patient had taken medication for the same, but there was no cure. History revealed that the patient was apparently normal 3 months back; slowly the patient started experiencing pain which was intermittent in nature and dull aching type and pain was aggravating on touching the affected side and

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relieved on taking analgesics. Following this, the patient developed swelling in the right lower one-third of the face 2 months back. The patient had visited a primary health center, where medications were given, and the patient was referred to our department for further investigation and treatment. On extraoral examination, swelling was noted on the right lower one-third of the face extending anteroposteriorly from the angle of the mouth to the angle of the mandible and from ala-tragus line to the lower border of the mandible. No abnormalities were seen on the skin and mucous membrane. On palpation, the swelling was hard in consistency and was tender on palpation. The right submandibular lymph nodes were palpable, mobile and nontender.

Intraoral examination showed a small (1 cm × 1.5 cm size), single, bony hard, nontender swelling in the mandibular right primary second molar region with obliteration of the buccal vestibule [Figure 1]. The teeth in the affected region were noncarious. The involved tooth was vital and nontender on percussion. There was no associated tooth mobility and any purulent discharge, and the patient's oral hygiene was good. The orthopantomogram [Figure 2] examination revealed an approximately 1–1.5 cm radiopaque mass attached to the distal root of the primary right mandibular second molar, and it was well demarcated by a radiolucent halo. The observed clinical and radiographic findings led us to the provisional diagnosis of benign cementoblastoma. The clinical differential diagnosis included juvenile ossifying fibroma, osteoma, osteoblastoma, odontoma, periapical cemental dysplasia, condensing osteitis and hypercementosis.

The surgical excision of the tumor along with the extraction of the associated primary molar under general anesthesia was planned. Pediatrician's opinion was taken regarding the general health and fitness of the patient. The surgical excision was carried out by an oral and maxillofacial surgeon with the help of an anesthesiologist. At the time of surgery, the lesion could be easily differentiated from the normal bone [Figure 3] and was removed along with the involved tooth. The surgical wound was closed by suturing. The excised tissue was irregularly shaped, white-colored structure with rough surface, hard in consistency and 1.6 cm × 0.8 cm × 0.5 cm in size [Figure 4]. The specimen was sent to histopathological examination.

Histopathological examination

The microscopic examination of H and E-stained (×10) section showed trabeculae of cementum-like calcified material lined by cementoblasts in the background of loose vascular connective tissue [Figure 5]. The center of the lesion showed trabeculae exhibiting reversal lines and numerous lacunar spaces filled with cementocytes. At the periphery of the lesion, radiating columns of unmineralized matrix oriented perpendicular to the connective tissue capsule were seen; in few areas, multinucleated cementoclast-like giant cells were also seen.

Thus, the final diagnosis of benign cementoblastoma was confirmed. The patient was recalled for regular clinical and radiographic follow-up. On 6-month follow-up, clinical and orthopantomogram [Figure 6] evaluation showed satisfactory healing without any signs of recurrence. The eruption path of the underlying second premolar was normal.

DISCUSSION

Benign cementoblastoma is also called as true cementoma. The benign cementoblastoma was first described by Dewey in 1927. It is a slow-growing, benign odontogenic tumor arising from the cementoblasts, although there have been reports of aggressive behavior.[6] Cementoblastoma is a rare lesion that represents <1% of the odontogenic tumors. The most commonly involved area is the mandible (50% molar and premolar area) and is never associated with the anterior

Figure 1: Clinical image shows intraoral swelling in relation to noncarious 85

Figure 2: Preoperative orthopantomogram shows the well-defined radio-opaque lesion attached to the distal root of 85

Figure 3: Clinical image shows intraoperative view of the lesion attached to the distal root of 85

Figure 4: Clinical image shows the excised lesion along with involved tooth 85

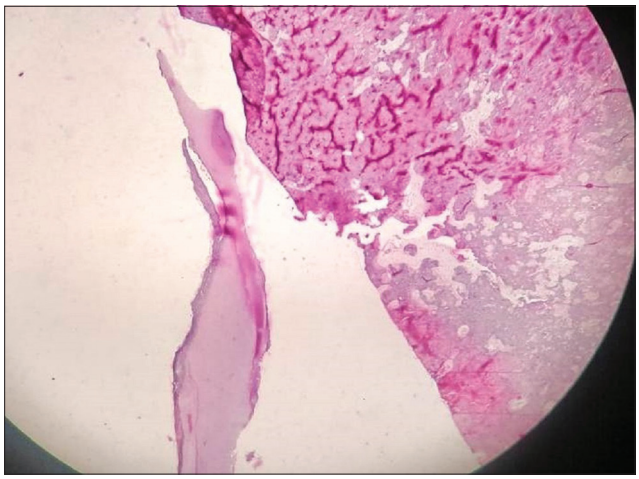

Figure 5: Histopathological image (H&E, ×10) shows trabeculae of sparsely cellular cementum with supporting fibrocellular connective tissue

Figure 6: Postoperative orthopantomogram after 6 months shows satisfactory healing and erupting 45

teeth.[7] Females (78.5%) are more commonly affected with cementoblastoma than males (21.5%). This pathology is more common in the mandibular arch (93%) than the maxillary arch (7%). Cementoblastoma is commonly seen on the right side (71.5%) of the mandibular arch, followed by the left side of the mandibular arch (21.5%) and the right side of the maxillary molar region (7%), with the most common tooth affected being right mandibular second molar (71%).[8] In the present case, also, mandibular second primary molar was involved.

Benign cementoblastoma is histopathologically characterized by the formation of sheets of cementum-like tissue with many reversal lines. This cementum-like tissue has irregular lacunae and cellular fibrovascular stroma. The peripheries of the mass or the more-active growth areas are often not mineralized. Sometimes, this tumor may histologically resemble osteoblastoma, atypical osteosarcoma or osteoid osteoma; hence, it is difficult to distinguish from these tumors. The only distinguishing feature can be attachment of cementoblastoma to the root of the tooth, which is not distinctively seen in the other mentioned tumors, but separating the lesions on the basis of only histopathological findings would prove to be difficult if adequate clinical details are not provided.[9] The histopathological findings observed in the present case were similar to those reported by Garg *et al*.[10]

The association of benign cementoblastomas with deciduous teeth is extremely rare. The prognosis of the benign cementoblastoma is excellent. The recurrence is rare if the lesion is excised surgically along with the involved tooth. Progressive growth of cementoblastoma can occur after incomplete surgical removal of the tumor. Radiological follow-up is, therefore, needed.

CONCLUSION

Benign cementoblastoma has unlimited growth potential. Hence, the preferred treatment is complete surgical excision along with the extraction of the associated tooth. The recurrence is rare if the mass is totally enucleated.

Declaration of the patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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