



A Comprehensive Report on Cementoblastoma with Permanent Molar: Unveiling the Rarity

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Authors' contributions

This work was carried out in collaboration among all authors. Author PN performed the surgery and conceptualized the study. Author GC helped to write the introduction section. Author GN did literature searches, Author KH helped to write the discussion, author Vijayalakshmi prepared the images. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Aims: To solve the enigma of this uncommon tooth-related lesion.

Presentation of Case: This case report details the massive cementoblastoma that affected the right mandibular body of a 20-year-old female patient, Extending from the mandibular first molar to the third molar region. Cementoblastoma was the tentative diagnosis made based on the radiological and clinical characteristics.

Discussion and Conclusion: Surgery was performed to remove the lesion and the associated permanent molars. It was determined by a histological analysis to be a benign cementoblastoma. There was no sign of a recurrence at the one-year follow-up, and the healing was quite good.

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1. INTRODUCTION

Cementoblastoma is a rare benign lesion representing less than 1% of all odontogenic tumours. Dewey gave the first description of it in 1927 [1]. It is believed that this lesion is the only benign tumour of cementum origin. Cementoblastoma is classified as a benign odontogenic tumour that originates from odontogenic ectomesenchyme without the proliferation of odontogenic epithelium, under the World Health Organization's (WHO, 2017) suggested classification [1,2,3]. It is characterised by the proliferation of tissue that resembles cementum and is nearly always connected to a permanent tooth that has erupted, usually the first molar [4,5]. The present case report describes a true cementoblastoma in relation to the right permanent mandibular molar in a 20-year-old female, along with the radiographic and histological findings of the lesion in detail.

2. CASE REPORT

A 20-year-old female reported to the Department of Oral and Maxillofacial Surgery of MIDSR Dental College and Hospital Latur with a chief complaint of pain and swelling in her lower right back teeth and jaw region for the last six months. The pain was constant and dull aching, which aggravated mastication. The swelling was gradual, hard in consistency, and progressive till the time of presentation.

On intraoral examination, there was a buccal and lingual cortical expansion with bony, hard, and slightly painful on palpation in the buccal

vestibule in relation to the permanent first mandibular molar. Tenderness on percussion was present with the first, second lower molars, and second premolar. No associated neurosensory deficit in the lower lip is present. A mass that was mostly radiopaque, ovoid, and above the mandibular canal roof was evident on CBCT. It was associated with molar teeth not causing displacement of adjacent anatomical structures (Fig. 1).

An approximately 1–1.5 cm radiopaque mass, well defined by a radiolucent halo, was found on the orthopantomogram, attached to roots of the primary right mandibular first molar. Based on the clinical and radiological observations, we have tentatively diagnosed benign cementoblastoma. Juvenile ossifying fibromas, osteomas, osteoblastomas, odontomas, periapical cemental dysplasia, condensing osteitis, and hypercementosis were among the conditions included in the clinical differential diagnosis.

Benign cementoblastoma was the tentative diagnosis, and general anaesthesia was used during the entire surgical removal process, along with the evacuation of the molar that was connected with the tumour. Due to its perforation of the buccal cortex in the area, the lesion was easily distinguishable from normal bone at the time of surgery.

(Fig.2) The periphery of the bony cavity was curetted (Fig.3), and the wound was closed primarily. The post-operative period was uneventful. After a year, there was no evidence of recurrence, the healing was excellent.



Fig. 1. CBCT showing lesion



Fig. 2. Complete removal of lesion



Fig. 3. Cavity curettage done

3. DISCUSSION

Cementoblastoma is a rare lesion representing <1% of the odontogenic tumours. Cementoblastoma is a rare neoplasm derived from the odontogenic ectomesenchyme of cementoblasts that forms a cementum layer on the roots of a tooth. The primary distinguishing feature of cementoblastoma is its connection to the root of the offending tooth [6].

Although aggressive behaviour has been reported, the benign cementoblastoma, which was initially reported by Dewey in 1927, is a slow-growing benign odontogenic tumour emerging from cementoblasts [7].

It is uncommon for a lesion to affect more than one permanent tooth, as this case does [8]. The lesion is always connected to the tooth root, no matter how many teeth are affected [9]. For some patients, there may be no symptoms at all,

however discomfort and bone growth are possible.

Dental displacement, trismus [10,11], and increased neighbouring tooth movement may eventually be noticed.

For cementoblastomas, surgical excision of the lesion together with the tooth or teeth and any afflicted structures is the preferred course of treatment. Either full curettage of the diseased area or peripheral osteotomy of the entire region follows. In cases where a late diagnosis is made and the tumour has already reached significant proportions, as in this report, the complete removal of the lesion and associated structures is recommended due to the unlimited growth potential [12] and eventual recurrence. Treatment options for early diagnosis include complete excision of the lesion with preservation of the involved tooth, thorough endodontic treatment⁷, and, in some cases, apicoectomy. Cortex and mandibular expansion.

Furthermore, sixteen cases [13] demonstrated tumour persistence even following surgical lesion excision and extraction of the affected tooth or teeth, classifying the cases as recurrent cementoblastomas. Remarkably, a larger percentage of cortical growth and perforation has been reported in these recurrent tumours than in nonrecurrent tumours [13]. The microscopic discovery of numerous tiny tumour foci positioned between neighbouring tooth resorption and the trabeculae of normal bone supports this. Therefore, surgical excision of the cementoblastoma, including the affected tooth or teeth, is advised in conjunction with curettage or peripheral ostectomy in cases of recurrence [10].

4. CONCLUSION

Cementoblastoma is a benign tumour that has limitless potential for growth but a low recurrence rate. Surgical extraction is the appropriate course of treatment, and early diagnosis allows for a more cautious procedure that may save the affected teeth. When a tumour is found in an advanced stage of growth, it is best to remove the teeth as well in order to reduce the chance of a recurrence. Cementoblastoma is a rare lesion, however it should be taken into account when making a differential diagnosis for periapical radio-opacities. Because of its attachment to the tooth's root, the diagnosis is made. Because of this odontogenic tumour's attachment to the tooth root, clinical and radiographic presentation, and etiology, it merits significant scholarly attention.

CONSENT

The written signed consent was obtained from the patient.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. El-Mofty SK. Cementoblastoma. In: El-Naggar AK, Chan JKC, Grandis JR, Takata T, Slootweg PJ, editors. WHO Classification of head and neck tumours. 4th edition Lyon: IARC Press. 2017; 230–1.
2. de Noronha Santos Netto J, Marques AA, da Costa DO, de Queiroz Chaves Lourenço S. A rare case of cementoblastoma associated with the primary dentition. *Oral and maxillofacial surgery*. 2012 Dec;16:399-402.
3. Hirai E, Yamamoto K, Kounoe T, Kondo Y, Yonemasu H, Kurokawa H. Benign cementoblastoma of the anterior maxilla. *Journal of Oral and Maxillofacial Surgery*. 2010;68:671-674.
4. Zaintoun H, Kujan O. Sloan an unusual recurrent cementoblastoma associated with a developing lower second molar tooth: a case report. *J. Oral Maxillofac. Surg.* 2007;65(10):2080–2.
5. Cundiff 2nd EJ. Developing cementoblastoma: Case report and update of differential diagnosis. *Quintessence Int.* 2000;31(3):191–5.
6. Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral and Maxillofacial Pathology*, W B Saunders, Philadelphia, Pa, USA, 2nd edition; 2002.
7. Kalburge JV, Kulkarni VM, Kini Y. Cementoblastoma affecting mandibular first molar – A case report. *Pravara Med Rev* 2010;2:33-7.
8. Ohki K, Kumamoto H, Nitta Y, Nagasaka H, Kawa mura H, Ooya K. Benign cementoblastoma involving multiple maxillary teeth: Report of a case with a review of the literature. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*. 2004;97:53-58. DOI:10.1016/j.tripleo.2003.08.012
9. Ulmanski M, Hansen E, Praetorius F, Haque MF. Benign Cementoblastoma: A review and five new cases. *Oral Surgery, Oral Medicine, Oral Pathology*. 1994;77: 48-55. DOI:10.1016/S0030-4220(06)80106-4
10. Sharma N. Benign cementoblastoma: A rare case report with review of literature. *Contemp. Clin. Dent.* 2014;5(1):92–4.
11. Garg B, Chavada R, Pandey R, Gupta A. Cementoblastoma associated with the primary second molar: An unusual case report. *J Oral MaxillofacPathol.* 2019;23: 111-4.
12. Biggs JT, Benenati FW. Surgically treating a benign cementoblastoma while retaining the involved tooth. *Journal of the American Dental Association*. 1995;126:1288-1290.

13. Brannon RB, Fowler CB, Carpenter WM, Corio RL. Cementoblastoma: An innocuous neoplasm? A clinicopathologic study of 44 cases and review of literature with special emphasis on recurrence. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology. 2002;93:311-320. DOI:10.1067/moe.2002.121993

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