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Case Report

Recurrent cementoblastoma in mandibular first molar region: A case report

Manisha Shinde^{1*}, Adil Gandevivala¹, Shrivalli Natarajan¹

¹Dept. of Oral and Maxillofacial Surgery, MGM Dental College and Hospital, Navi Mumbai, Maharashtra, India



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ABSTRACT

Benign cementoblastoma is an infrequent tumor originating from odontogenic mesenchyme. It is distinguished by the presence of a mineralizing mass located at the apex of the tooth root. Adults and children are most commonly affected by this neoplasm. This case report presents of such a rare case of cementoblastoma in lower left molar region causing deflection of inferior alveolar nerve in a 10-year-old female patient presenting with extraoral swelling and complaining of pain in same region for which the patient had previously underwent excision of the tumor incompletely.

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1. Introduction

The World Health Organization recognizes cementoblastoma as a benign neoplasm and is characterized by the formation of sheets of cementum like tissue containing a large number of reversal lines and a lack of mineralization at the periphery of the mass or in the more active growth area.¹ The tumor occurs mostly below the age of 25 years with no specific gender prediction. As per data mandible is affected at least 3 times more than the maxilla.² The tumor is usually painless until it is affected by caries or any other periodontal issues. The tumor is slow growing and causes expansion of the cortical plates of the bone. Cementoblastoma has typical distinguishing features which include periapical radiolucency along with obliteration of half of the root.^{3,4} Other lesions such as ossifying fibroma, odontoma and osteoblastoma are radiopaque and completely superimposed over the roots. Treatment of such a rare benign cementoblastoma includes extraction of the tooth associated and complete curettage. This case report represents a case of recurrent

cementoblastoma in lower left molar region along with displacement of inferior alveolar nerve.

2. Case Report

A 10-year-old female patient accompanied with her parents reported into the oral surgery department with the chief complaint of pain and swelling in lower left jaw region past 8 months. Patient was alright 8 months ago when she suddenly started experiencing pain in her lower jaw in association with tooth 36 for which she visited her local dentist. RadioVisioGraph was taken and a periapical radiopaque mass with surrounding radiolucent rim was noted involving the distal root of 36. (Figure 1). The patient underwent a root canal treatment for the same but unfortunately the pain wasn't relieved and extraction was planned for the same along with excision of the tumor and a synthetic graft was placed in the defect. On histopathologic examination cementoblastoma diagnosis was made. After 8 months of surgery, the patient again reported to the department oral surgery with the chief complaint of pain and extraoral swelling in the lower left molar region. On clinical examination, facial asymmetry was observed due to a hard swelling over the lower left back

* Corresponding author.

E-mail address: upasana.dec@gmail.com (M. Shinde).

tooth region which was tender on palpation. Intraorally, expansion of both the lingual and buccal cortical plates was seen (Figure 3). The adjacent teeth 37 was drifted mesially but not mobile. CBCT revealed an ovoid shape mixed hypodense-hyperdense lesion in the same location extending from distal aspect of 75 up to apical region of distal root of 37 along with expansion of buccal and lingual cortical plates with perforation and deflection of inferior alveolar nerve (Figure 4). Previous histopathology report of excised lesion with 36 suggested cementoblastoma. Clinical, radiographic and histopathological examination led to the diagnosis of recurrent cementoblastoma and surgical excision of lesion was scheduled under General Anesthesia.

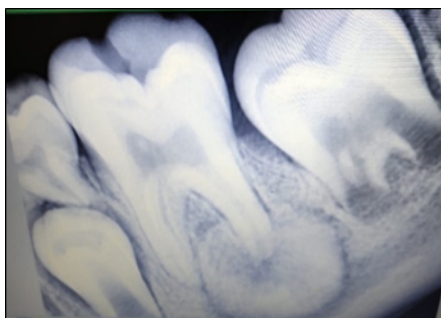


Figure 1: Preoperative intraoral periapical x-ray before extraction and excision of tumour showing well-defined radiopaque mass attached to distal root of 36 with distinct radiolucent rim surrounding the tumour

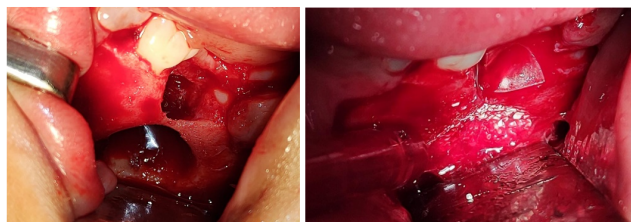


Figure 2: Intraoral pictures of previous surgery showing defect created after extraction of 36 and excision of tumour. Defect was filled with synthetic bone graft

Intraoral crevicular incision was taken extending from distal aspect of 33 to 37. Tumor was exposed after reflection of full thickness mucoperiosteal flap. There was previously a graft placed in center, residual part and peripheral region of tumor (Figure 5). Complete excision of tumor was performed using piezosurgery with careful dissection of inferior alveolar nerve. (Figure 6). The defect was left empty to heal by secondary intention. No paresthesia was observed over left side of lower lip before and after surgery. Macroscopic appearance of lesion after complete excision of tumor showed previous synthetic bone graft in the center of tumor and mass of recurrent cementoblastoma



Figure 3: Intraoral view showing swelling in previously extracted 36 regions with expansion of buccal and lingual cortex and mesial drifting of 37

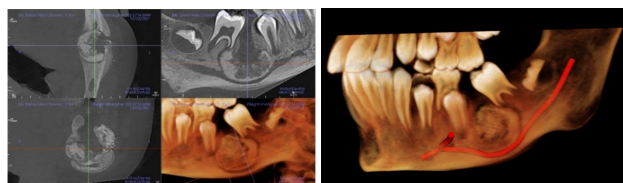


Figure 4: Axial section of postoperative CBCT scan taken 7 months after first surgery showing mixed hypodense-hyperdense lesion with expansion and perforation of buccal and lingual cortical plate with deflection of Inferior alveolar nerve to the lower border of mandible.

at the periphery (Figure 7). Histopathologic examination suggested presence of hypocellular cementum like mass embedded in the fibrovascular connective tissue (Figure 8). CBCT examination post-surgery showed no residual masses with preservation of complete inferior alveolar nerve.



Figure 5: Intraoperative photographs before excision of tumor showing previously placed graft in center of tumor and residual part of tumor at peripheral region of tumor

3. Discussion

Cementoblastoma most commonly occurs in the posterior region of the mandible and is often attached to the root of

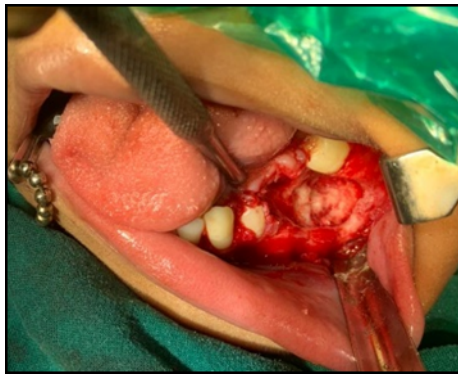


Figure 6: Complete excision of tumor without damaging inferior alveolar nerve



Figure 7: Macroscopic appearance of lesion after complete excision demonstrating previous synthetic bone graft in the centre of tumor and residual cementoblastoma at periphery to mass

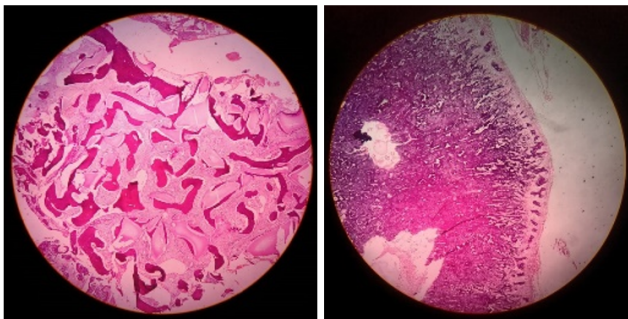


Figure 8: Histologic appearance of the lesion showing hypocellular cementum like masses embedded in fibrovascular stroma and presence of rim of connective tissue at the periphery of lesion

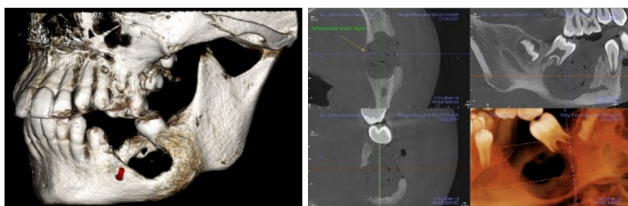


Figure 9: Postoperative CBCT after second surgery showing complete excision of tumour mass with preservation of inferior alveolar nerve

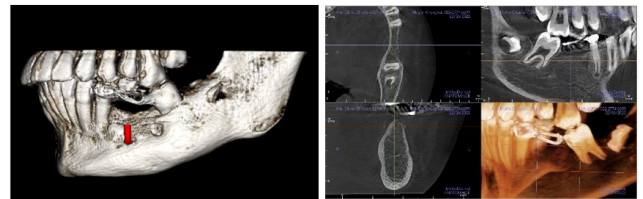


Figure 10: Postoperative CBCT after one year showing complete filling of defect with no recurrence seen

an erupted permanent first molar.^{5–8} Pain, tenderness, and swelling are present in most patients with cementoblastoma, although the lesion can be asymptomatic. The involved tooth is usually vital unless it is involved by some other factors. The recurrence rate of cementoblastoma is very low between 11.8 to 21.7%.⁹ Only 21 cases of recurrent benign cementoblastoma have been reported till date.¹⁰ Recurrence usually occurs within 6 months to 1 year after initial surgery and expansion with perforation of cortical plates has been seen in association with recurrence of cementoblastoma.^{10,11} This case report presents a case of recurrent cementoblastoma in mandibular first molar region 7 to 8 months after surgical excision of primary tumor. In the present case report, the patient was symptomatic, complaining of pain and swelling in 36 region and expansion of buccal and lingual cortical plates was seen clinically. Radiographic examination suggested of new benign tumor (likely secondarily infected) in previous surgery site causing expansion of buccal and lingual cortex with deflection of inferior alveolar canal. A differential diagnosis of Cementoblastoma, ossifying fibroma, Complex odontoma was considered. There was a possibility of damage to inferior alveolar neurovascular bundle and pathologic fracture of mandible during surgery. On the basis of previous history, clinical examination, radiographic and histopathologic report it was known that complete excision of lesion was done under General Anaesthesia with careful preservation of inferior alveolar nerve and without fracturing the adjacent mandible. There was difficulty in differentiating between normal bone and tumor, but with the help of piezosurgery unit the tumor was completely excised by preserving the inferior alveolar nerve which can be seen on Post-operative CBCT scan of mandible. Routine postsurgical follow-up after 6 months has shown that the defect created by excision of tumor had healed by secondary intention. At present the patient didn't have any chief complaint and is asymptomatic.

4. Conclusion

Though the recurrence of benign cementoblastoma is very rare, still there are reported cases of recurrence which were associated with expansion and perforation of cortical plate and excision of primary tumor. Hence complete excision of

primary tumor along with curettage should be considered to prevent the recurrence. Most important factor is routine follow up for a few years is recommended to rule out the recurrence of benign cementoblastoma.

5. Source of Funding

None.


6. Conflict of Interest


None.

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Author biography

Manisha Shinde, PG Student  <https://orcid.org/0000-0002-6290-9047>

Adil Gandevala, Professor  <https://orcid.org/search?searchQuery=0000-0002-6841-5371>

Shrivalli Natarajan, Professor

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