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Case Report

Dentistry Section

Cementoblastoma Which was Associated with the Maxillary First Premolar: An Unusual Case Report

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ABSTRACT

Cementoblastoma is a rare, benign, odontogenic tumour that tends to be associated with the roots of the mandibular first molars and which is seldom associated with the maxillary teeth. It usually affects young adults. We are reporting a case of cementoblastoma which was attached to the right maxillary first premolar, which was treated with the extraction of the tooth and surgical excision of the tumour mass.

Key Words: Osteoblastoma, Cementoblastoma

INTRODUCTION

Cementoblastoma or true cementoma is a relatively rare lesion which arises from the odontogenic ectomesenchyme [1]. It consists of proliferating cementum tissue with functional cementoblasts [2]. It was first described by Norberg in 1930 [3]. Cementoblastoma accounts for less than one percent of all the odontogenic tumours [4]. It forms a large mass of cementum or cementum-like tissue on the affected roots of the tooth [5].

We are presenting an incidental finding of cementoblastoma in a 28 year old male patient, which was discovered during a routine radiographic examination.

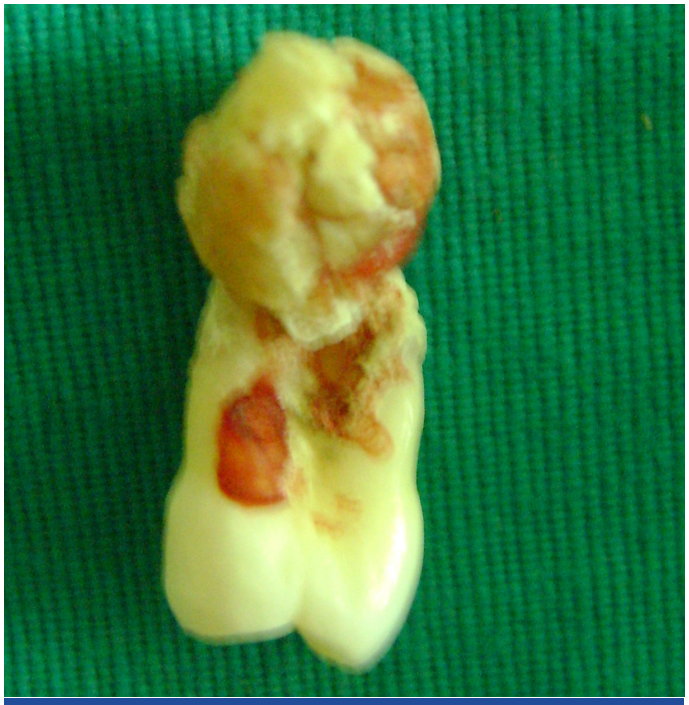
CASE REPORT

A 28-year old male patient came to the Department of Oral And Maxillofacial Surgery with the chief complaint of pain in the upper, right, posterior teeth since six months. The pain was a dull ache which was non radiating and intermittent in nature. The radiographic examination revealed an approximately three cm radiopaque mass which was attached to the roots of the right maxillary first premolar, which was surrounded by a radiolucent periphery. The adjacent canines appeared to be endodontically treated. As there was continuous pain with 14, we went for root canal treatment of the tooth, but after two months, the patient returned back with the same complaint. After obtaining consent from the patient, the affected tooth was extracted, the attached tumour mass was removed surgically and the specimen was sent for a histopathological examination.

Microscopically, the lesion revealed a dense, irregularly lamellated, hypocellular cemental mass along with sparse fibrous connective tissue. A final diagnosis of cementoblastoma was made and the case was followed up for a period of one year at three monthly intervals. The patient is normal at present.

DISCUSSION

Cemenoblastoma is considered as the only true neoplasm of cementum origin [6]. In the recent WHO classification of odontogenic tumours, it has been included in the category of tumours of the mesenchyme and/or the odontogenic ectomesenchyme, with or without the odontogenic epithelium [4].



[Table/Fig-1]: Excised tumour mass along with tooth

Generally, cementoblastoma is seen in young adults in the second and third decades of their lives. Few reports have indicated that females were predominantly involved than males, whereas the present case was a 28 year old male patient [7]. The review of the literature revealed that the mandibular first molar was the most common site for this lesion, whereas in our case, the lesion was associated with the right maxillary first premolar, which was a very unusual and a rare finding [8].

Pain and swelling are the frequent symptoms in patients with this lesion or they may be asymptomatic. Our case presented with pain, but he had no swelling. The tumour size radiographically usually ranges from 0.5 to 5.5 cm, the average size being 2.1 cm and our case showed a tumour of approximately three cm size [9].

Most of the cases reveal a well-defined circumscribed radiopaque mass which is confluent with the root of the involved tooth. The differential diagnosis for a periapical radio-opacity should include

cementoblastoma along with osteoblastoma, odontoma, periapical cemental dysplasia, condensing osteitis and hypercementosis [10]. It is differentiated from the osteoblastoma by its location in close association with the tooth's root. The odontome is generally not fused with the adjacent tooth and it does not appear as a homogeneous radiopacity, thus suggesting the presence of multiple dental hard tissues. Periapical cemental dysplasia generally presents as a smaller lesion than cementoblastoma and it shows a progressive change in the radiographic appearance over time, being initially radiolucent, then a mixed lesion and finally a radiopaque lesion. Condensing osteitis lacks a peripheral radiolucent halo [11]. In cementoblastoma, the outline of the root of the involved tooth is usually obscured due to root resorption and fusion of the tumour with the tooth, whereas in hypercementosis, there is an intact lamina dura [6].

The characteristic feature of cementoblastoma, it being fused with the root of the tooth, can be demonstrated both macroscopically and microscopically [12]. Grossly, a round to ovoid, well-circumscribed mass of hard, calcified tissue surrounds the root of the affected tooth [13].

The histopathological differential diagnosis of cementoblastoma includes osteoblastoma and osteosarcoma. It is differentiated from osteoblastoma by its pathognomic feature of the attachment of the tumour mass to the root of the affected tooth. The tumour presents as cementum-like tissue with numerous reversal lines [10]. The present case had similar features. This lesion is differentiated from osteosarcoma by the absence of malignant features. The differentiation of the above mentioned lesions from cementoblastoma requires a correlation with the clinical and the radiographic findings [14].

As these lesions have unlimited growth potential, they are usually treated with complete surgical excision of the tumour mass along with extraction of the associated tooth [15]. With incomplete removal, recurrence is common and it appears to be highest for those who are treated with curettage alone. Some authors advocate curettage after extraction to decrease the overall rate of recurrence [4]. In our case, we extracted the affected tooth and the tumour mass was surgically excised. The follow-up revealed an uneventful healing.

REFERENCES

[1] Brannon RB, Fowler CB, Carpenter WM, Corio RL. Cementoblastoma: an innocuous neoplasm? A clinicopathologic study of 44 cases and review of the literature with a special emphasis on recurrence. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2002; 93(3):311-20.

[2] Zachariades.N, Skordalaki A, Papanicolaou S, Androulakakis E, Bournias M. Cementoblastoma: review of the literature and report of a case in a 7 year-old girl. *Br J Oral Maxillofac Surg*. 1985; 23: 456-61.

[3] Biggs JT, Benenati FW. Surgically treating a benign cementoblastoma while retaining the involved tooth. *J Am Dent Assoc*. 1995; 126: 1288-90.

[4] Huber A R, Folk GS. Cementoblastoma. *Head and Neck Pathol*. 2009; 3:133–35.

[5] Ackermann GL, Altini M. The cementomas- a clinicopathological reappraisal. *J Dent Assoc S Afr*. 1992; 47: 187–94.

[6] Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and Maxillofacial pathology. 2nd ed. Philadelphia W B Saunders 2002; 570-571.

[7] Wiggins HE, Karian BK. Cementoblastoma of the maxilla: report of a case. *J Oral Surg* 1975; 33: 302-03.

[8] Lu Y, Xaun M, Takata T, Wang C, He Z, Zhou Z, et al. Odontogenic tumours. A demographic study of 759 cases in a Chinese population. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1998; 86: 707-14.

[9] Chauhan B. A case report: benign cementoblastoma associated with the impacted third molar. *Archives of Dental Sciences*. 2010; 1: 59-61.

[10] Sankari LS, Ramakrishna K. Benign cementoblastoma. *Journal of Oral and Maxillofacial Pathology*. 2011; 15: 358-360.

[11] Kalburge J V, Kulkarni V M, Kini Y. Cementoblastoma affecting the mandibular first molar-a case report. *Pravara Med Rev* 2010; 5(4): 33-37.

[12] Ulmansky M, Hjortig-Hansen E, Praetorius F, et al. Benign cementoblastoma. A review and five new cases. *Oral Surg Oral Med Oral Pathol*. 1994; 77: 48–55.

[13] Vieira AP, Meneses JM Jr, Maia RL. Cementoblastoma which was related to a primary tooth: a case report. *J Oral Pathol Med*. 2007; 36: 117–19.

[14] Slootweg PJ. Cementoblastoma and osteoblastoma: a comparison of the histological features. *J Oral Pathol Med*. 1992; 21: 385–89.

[15] Sumer M, Gunduz K, Sumer AP, et al. Benign cementoblastoma: a case report. *Med Oral Patol Oral Cir Bucal*. 2006; 11: 483–85.

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