

True Cementoma (Benign cementoblastoma): a case report

Ahrens A.*, Bressi T.**

* D.D. Private Dental Clinic in Nocciano, (Pe) – Italy, ahrens1@tin.it

** M.D. Dipartimento di Otorinolaringoiatria, Università degli Studi di Perugia

Abstract: In this article we report the case of a 29 years old male affected by a true cementoma, and we discuss over the clinicopathologic features, treatment and prognosis. Although this neoplasm is rare it is important for the dental practitioner to be aware of the clinical features which can lead to an early diagnosis and treatment of this lesion.

Keywords: True cementoma, benign cementoblastoma, odontogenic tumors

Summary: True cementoma, also known as benign cementoblastoma, is a very rare and benign odontogenic neoplasm that originates from the mesenchymal tissue. It usually occurs under the third decade with a predominance for the posterior permanent teeth of the mandibula. Although it is a benign lesion it requires a surgical approach because of its not self-limiting growth (as happens for the cementoma). We describe the case of a 29 years old male affected by true cementoma.

Introduction: True cementoma is a true neoplasm, first described by Norberg (1), that forms a mass of cementum (or cementum like tissue) on the root of tooth. It is a rare lesion that represents < 1% of the odontogenic tumors. The most involved area is the mandibula (50% molar and premolar area), and is never associated to the anterior teeth.(2,3,)

Morphologically the true cementoma is a mass which is well defined, dense radiopaque, arising from the root's apex and tending to obliterate its anatomy. Peripherically the mass is surrounded by a uniform radiolucent rim and the lesion obscures the lamina dura.

Histologically we report plump cementoblasts separated by cemental partitions.

The true cementoma has a slow growth which tends to expand the bony plates.(4,5,6)

Case Report: A 29 years old male came to our attention for a painful swelling located at the first molar of the mandibula (tooth 3.6). (fig.1)

The radiographs demonstrated an approximately circular and radiopaque mass of about 1 cm of diameter associated to the roots of tooth 3.6, surrounded by a radiolucent halo, and not involving the Inferior Alveolar Nerve. To establish the vitality he involved tooth underwent electric pulp test and ethyl chloride test and the response was of vital tooth. The oral examination also showed a good oral health and hygiene, with only a mesial displacement of tooth 3.7, due to the mass.

Surgery time for the enucleation started with a vestibular fullthickness envelope extended from 3.4 to 3.7 to identify and isolate the mental nerve and the lesion. The lesion was easily identified due to the perforation of the cortex.

We proceeded with the luxation of the tooth using extraction forceps and delivered it vestibularly with all the mass.

The second step was the curettage of the bone cavity and the filling with deproteinized bovine bone and the remodelling of the area interested by the lesion.

The envelope was sewed with a 4-0 synthetic suture (Poliglicolic acid covered with polycaprolate - co-glicolide) and the patient was administered with antibiotics (claritromycin RM) 500 mg once a day for 5 days. To preserve the second molar (3.7) from mobility and also to save the post-extractive space we inserted a space maintainer.

The specimen underwent histologic evaluation that evidenced a not carious mandibular molar with roots embedded in a spherical mass of hard tissue. There was also a resorption of the apical third of the roots. Histologically we reported broad trabeculae of cellular cementum with areas of cemental islands and multinucleated cementoclasts and prominent cementoblasts. Peripherically we observed the usual radiating columns of cementum which are perpendicular to the surface of the lesion.

fig 1

Discussion

True cementoma is a slow growing odontogenic tumor that arises from the mesenchymal tissue, exactly from cementoblasts. It is a rare lesion, first described in 1930 by Norberg (1), with less than 150 cases reported in literature.(2-10)

Patient usually present with pain and swelling in the involved area; more than 50% of patient are aged under 20 (75% aged < 30) (8,12) and the lesion is located in mandibula in more than the 70% of cases (with a predominant location at first molar and second premolar).

The pathognomonic rX appearance of true cementoma is very usefull to make a differential diagnosis with other periapical radiopacity like **cementoblastoma, osteoblastoma, odontoma, periapical cemental dysplasia, condensing osteitis and hypercementosis.**

- 1) Cementoblastoma and osteoblastoma are very similar (13) by the histological aspect, but the first one has a strict association with the root, while the second one arises in the medullar cavity of a wide range of bones,
- 2) Odontome is usually not linked to the root and has also a heterogeneous radiopacity showing the presence of multiple dental tissues.
- 3) Periapic cemental dysplasia is a smaller lesion with changes in radiographic apparence from radiolucent to radiopaque.
- 4) Condensing osteitis does not present the well defined periferical radiolucent rim typical of the true cementoma.
- 5) Hypercementosis is a small lesion without pain or swelling

Although true cementoma has been described as a benignant solitary neoplasm with a slow growth there were also reported some cases of aggressive behaviour.(14,15)

We consider the true cementoma not really benignant due to the location, the not self-limited growth that can lead to a complete destruction of the involved area and also due to the treatment required. In fact the treatment of choice consists in the complete removal of the lesion with the involved tooth (or teeth). It is also possible a more conservative approach with endodontic surgery (apicoectomy) which can be used for little lesion on a tooth that could be strategic and that can be completely enucleated without compromission of adjacent teeth (16,17).

It is to consider that this approach can lead to a risk of recurrence of the neoplasm.

We consider that it is very important for dental practitioner to have aknowledgement with this neoplasm, also like for the others, to be able to recognize it and to make differential diagnosis from other similar radioopaque lesions which could need a different medical or surgical approach.

Bibliography

- 1) Norberg O. "Zur kenntnis der dysontogenetischen Geschwulste der Kieferknochen". *Vrtljsschr f Zahnh* 1930; 46:321-55
- 2) Kramer JR, Pindbor JJ, Shear M. "Histological typing of odontogenic tumors, jaw cysts, and allied lesions". In: *International classification of tumors. Geneva: World Health Organization*; 1992. p. 23-40

- 3) Abrams Am, Kirby JW, Melrose RJ. "Cementoblastoma: a clinical-pathologic study of seven new cases". *Oral Surg Oral Med Oral Pathol* 1974; 38(3):394-403
- 4) Piattelli A, Di Alberti L, Scarano A, Piattelli M. "Benign cementoblastoma associated with an unerupted third molar". *Oral Oncol* 1998(May; 34 (3): 229-31
- 5) Ackermann GL, Altini M. " The cementomas – a clinicopathological re-appraisal". *J Dent Assoc S Afr.* 1992 May; 47(5): 187-94.
- 6) Mogi K, Belal E, Kano A, Otake K. "Benign cementoblastoma. Case report." *Aust Dent J.* 1996 Feb; 41(1):9-11
- 7) Regezi JA, Kerr DA, Courtney RM. "Odontogenic tumors: analysis of 706 cases". *J Oral Surg* 1978;36(10):771-8
- 8) Ulmanky M, Hjorting-Hansen E, Praetorius F, Hacque MF "cementoblastoma: a review and five new cases". *Oral Surg Oral Med Oral Pathol* 1994; 77(1): 48-55
- 9) Huvar RJ, Butura CC "Benign cementoblastoma: report of case" *CDS Rev* 1995; 88(8):36-7
- 10) 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(6): 456-61
- 11) Garlick AC, Newhouse RF, Boyd DB "Benign cementoblastoma: report of a case" *Milt Med* 1990; 155(11):567-70
- 12) Berwick JE, Maymi GF, Berkland ME "Benign cementoblastoma: a case report" *J Oral Maxillofac Surg* 1990; 48(2): 208-11
- 13) Slootweg PJ "Cementoblastoma and osteoblastoma: a comparison of histologic features" *J Oral Pathol Med* 1992; 21(9): 385-9
- 14) Krausen AS, Pullon PA, Gulmen S, Schenck NL, Ogura JH " Cementomas – aggressive or innocuous neoplasm?" *Arch Otolaryngol* 1977; 103(6): 349-54
- 15) Langdon JD. "The benign cementoblastoma – just how benign?" *Br J Oral Surg* 1976 ; 13(3) : 239-49
- 16) Goerig AC, Fay JT, King E, « Endodontic treatment of a cementoblastoma » *Oral Surg* 1984 ; 58(2) : 133-6
- 17) Keyes G, Hilferbrand K "Successful surgical endodontics for benign cementoblastoma" *J Endod* 1987; 13(12): 566-9