10.5005/jp-journals-10037-1123

CASE REPORT

# Central Cemento-ossifying Fibroma

[1]Sreekanth Kotina, [2]Vandana Raghunath, [3]Divya Uppala, [4]Neeharika Mortha


## ABSTRACT

**Introduction:** The term "central cemento-ossifying fibroma" has caused significant confusion due to its marked similarity with other fibro-osseous lesions and fibrous dysplasia of bone. Few major differences are that the cell undergoing the differentiation in ossifying fibroma is the osteoblast and the cementoblast in the cemento-ossifying fibroma. Further, the ossifying fibroma and the cemento-ossifying fibroma could simply represent two facets of the same basic lesion. This case report discusses the case of a central cemento-ossifying fibroma and its marked similarity/dissimilarity to a fibro-osseous lesion.

**Case report:** A 40-year-old female came to the outpatient department (OPD) with a nontender, hard, diffuse swelling extending anteriorly from the midline of the chin and posteriorly 4 cm away from the angle of mandible. Lingually, swelling extended from 42 to 46, measuring 5 × 4 cm approx, surrounding areas and overlying mucosa were normal. Mandibular occlusal radiograph exhibited bicortical expansion. Provisional diagnosis was given as cemento-ossifying fibroma.

**Management and prognosis:** The entire tumor mass was resected completely under general anesthesia, including involved regions of the mandible followed by bone grafting.

**Conclusion:** The circumscribed nature of the ossifying fibroma permits the enucleation of the tumor with relative ease. Large lesions that cause considerable bone destruction may require resection with bone grafting.


**Keywords:** Benign, Central cemento-ossifying fibroma, Mandible, Odontogenic tumor.

**How to cite this article:** Kotina S, Raghunath V, Uppala D, Mortha N. Central Cemento-ossifying Fibroma. Oral Maxillofac Pathol J 2018;9(1):20-22.

**Source of support:** Nil

**Conflict of interest:** None

## INTRODUCTION

Cemento-ossifying fibroma is considered as a lesion of odontogenic origin. Earlier, the distinction between odontogenic fibroma and cemento-ossifying fibroma was very few as both exhibited similarity in the form of growth, histopathology, and prognosis.

Recently, in the 2017 World Health Organization (WHO) classification, cemento-ossifying fibroma has been placed under the mesenchymal odontogenic tumors. Though various terms have been used to describe the fibro-osseous lesions, if the bone predominates, it is considered ossifying fibroma, if there is cementum it is cementifying fibroma, and if both the hard tissues are present it is called as cemento-ossifying fibroma.

## CASE REPORT

A 40-year-old female came to the OPD with a nontender, hard, diffuse extraoral swelling extending anteriorly from the midline of the chin and posteriorly 4 cm away from the angle of mandible. There was no associated paresthesia and lymphadenopathy. Lingually, the swelling extended from 42 to 46. Superiorly from free gingiva and inferiorly from the depth of the floor of mouth, measuring 5 × 4 cm approx. surrounding areas and overlying mucosa were normal as seen in Figure 1. Other dental findings include missing 46 and grossly decayed 48. Radiologically, the mandibular occlusal radiograph exhibited bicortical expansion as seen in Figures 2 and 3. Hence, the provisional diagnosis was given as cemento-ossifying fibroma.

Excisional biopsy was done and sent for histopathological examination as seen in Figures 4 and 5. Decalcified hematoxylin and eosin (H&E) sections showed dense sclerotic mature lamellar bony masses, with many resting and few prominent reversal lines (Fig. 6). Scattered haversian canals and minimal marrow

**Fig. 1:** Intraoral photograph of the lesion

[1-3]Reader, [4]Postgraduate Student

[1-4]Department of Oral and Maxillofacial Pathology, Microbiology and Forensic Odontology, GITAM Dental College & Hospital Visakhapatnam, Andhra Pradesh, India

**Corresponding Author:** Sreekanth Kotina, Reader, Department of Oral and Maxillofacial Pathology, Microbiology and Forensic Odontology, GITAM Dental College & Hospital, Visakhapatnam Andhra Pradesh, India, e-mail: sreekanthkotina@gmail.com

**Fig. 2:** Panoramic radiograph

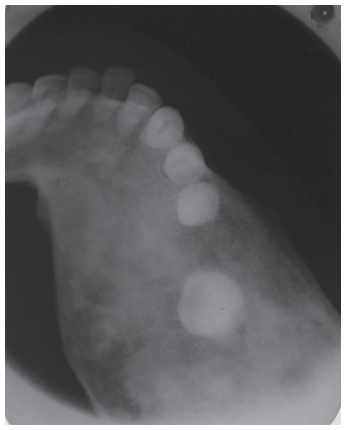

**Fig. 3:** Occlusal view of the mandible

**Fig. 4:** Resected lesion of the patient mentioned in the case report

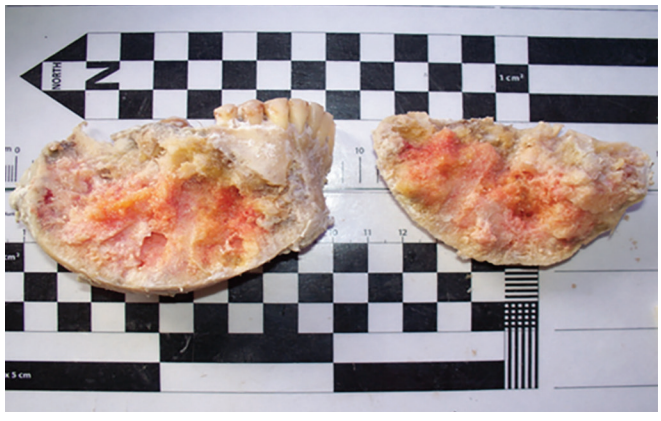

**Fig. 5:** Grossing of the specimen

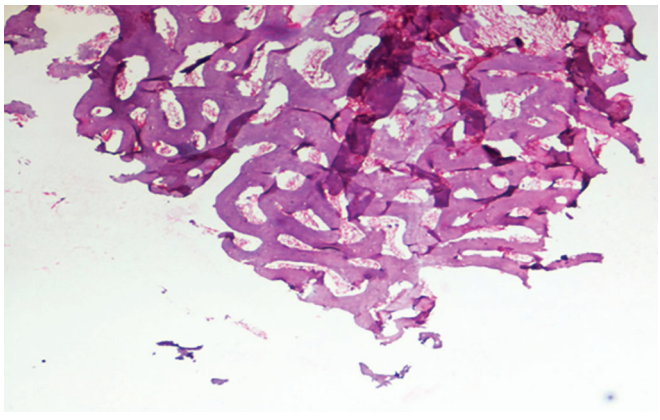

**Fig. 6:** Photomicrograph of the histopathological examination (H&E staining) of the lesion in 4×

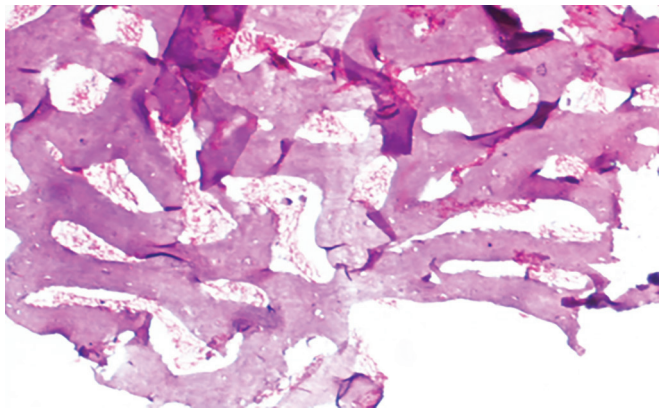

**Fig. 7:** Photomicrograph of the histopathological examination (H&E staining) of the lesion in 10×

elements at the periphery and many mature branching bony trabeculae were seen, while some were scattered singly, enclosing a fatty marrow tissue (Fig. 7). Focal areas showed fibrocellular and vascular connective tissue with few roughly spherical basophilic calcified masses (Figs 8 and 9). The final diagnosis of cemento-ossifying fibroma was given.

## DISCUSSION

Cemento-ossifying fibroma is mostly divided into central, peripheral, and aggressive form. The aggressive form is found in children and is more vascular histopathologically. The central form which is hypothesized is derived from the periodontal ligament and could contain anything from bone to cementum histopathologically. The gingiva is the location for the peripheral form.

David MacDonald in his systematic review[1] in their systematic review of 64 reports found the most common area of presentation was in middle-aged females affecting the mandible. Radiologically, the sclerotic border which is found to be the most common form of presentation was also found in our case. The other two forms include

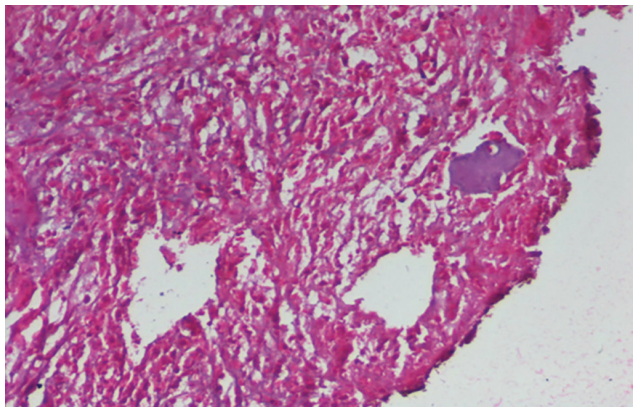

**Fig. 8:** Photomicrograph of the histopathological examination (H&E staining) of the lesion in 20×

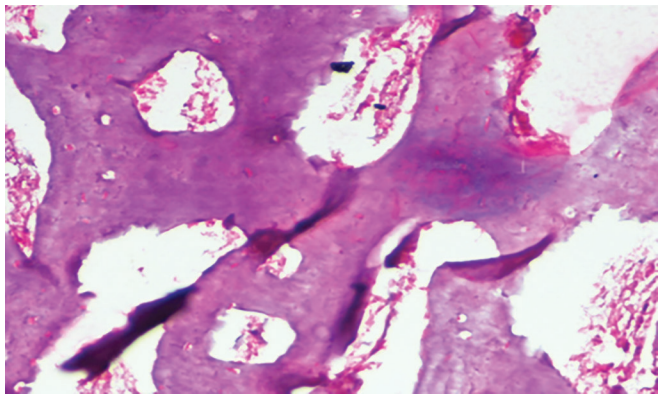

**Fig. 9:** Photomicrograph of the histopathological examination (H&E staining) of the lesion in 40×

well-defined lesion without sclerotic border and an ill-defined border without proper margins.

The 1971 WHO classification placed all lesions with cementum under a single group, whether benign or malignant. In the 1992 WHO classification, the neoplasms were divided into osteogenic and non-neoplastic bone lesions.[2-5] Further in the 2003 consensus, osseous and non-neoplastic lesions were placed under "Neoplasms and other lesions occurring in the maxillofacial skeleton."[6,7] Recently, in 2017, cemento-ossifying fibromas were placed under benign mesenchymal odontogenic tumors.[8-11] The prognosis is favorable, and with no apparent potential for malignant transformation. The lesion permits resection with relative ease. A systematic review of literature has reported a 12% recurrence rate.

## CONCLUSION

Central cemento-ossifying fibromas usually "shell out" easily at surgery because of its circumscribed nature. Only large lesions require resection with bone grafting. The recurrence rate of mandibular central cemento-ossifying fibromas is as many as 28% of patients. Overall prognosis is very good.

## REFERENCES


1. Macdonald-Jankowski DS. Cementoossifying fibromas in the jawsof Hong Kong Chinese. Dentomaxillofac Radiol 1998;27:298-304.
2. Martín-Granizo R, Sanchez-Cuellar A, Falahat F. Cemento-ossifying fibroma of the upper gingivae. Otolaryngol Head Neck Surg 2000 May;122(5):775.
3. Mohapatra M, Banushree CS, Nagarajan K, Pati D. Cemento-ossifying fibroma of mandible: an unusual case report and review of literature. J Oral Maxillofac Pathol 2015 Sep-Dec; 19(3):405.
4. Feller L, Buskin A, Raubenheimer EJ. Cemento-ossifying fibroma: case report and review of the literature. J Int Acad Periodontol 2004 Oct;6(4):131-135.
5. Singhal A, Ram R, Singhal P, Bhatnagar S, Das UM. Cemento-ossifying fibroma of maxillary antrum in a young female patient. J Indian Soc Pedod Prev Dent 2011 Dec;29(6): 44-47.
6. Ghani B, Bhattacharya HS, Manjunath RGS, Khan R. Peripheral cemento-ossifying fibroma—a case report. Natl J Med Allied Sci 2014 Oct;3(1):42-45.
7. Sinha S, Enja SPR, Chandra S, Nethan S. Peripheral cemento-ossifying fibroma: report of a case in an elderly patient. J Indian Acad Oral Med Radiol 2014 Oct;26(2):204-208.
8. Eversole LR, Leider AS, Nelson K. Ossifying fibroma: a clinicopathologic study of sixty-four cases. Oral Surg Oral Med Oral Pathol 1985 Nov;60(5):505-511.
9. Khan SA, Sharma NK, Raj V, Sethi T. Ossifying fibroma of maxilla in a male child: report of a case and review of the literature. Natl J Maxillofac Surg 2011 Jan-Jun;2(1):73-79.
10. Liu Y, Wang H, You M, Yang Z, Miao J, Shimizutani K, Koseki T. Ossifying fibromas of the jaw bone: 20 cases. Dentomaxillofac Radiol 2010 Jan;39(1):57-63.
11. Kramer IR, Pindborg JJ, Shear M. The WHO histological typing of odontogenic tumours. A commentary on the second edition. Cancer 1992 Dec;70(12):2988-2994.