



## CASE REPORT

### Cemento-Ossifying Fibroma of the Mandible: A Case Report

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#### Abstract

##### Objective

Cemento-ossifying fibroma is a rare benign fibro-osseous lesion that originate from the mesenchymal cells of the periodontium. Enucleation or resection may be considered as treatment options of this lesion. Here we present surgical treatment of a case of cemento-ossifying fibroma located in the ramus of the mandible.

##### Case

A 12-year-old male patient was admitted to our clinic for routine examination. After clinical and radiological examinations, multilocular and non-expanding lesion was detected in the posterior region of the right mandible. Enucleation was performed under general anesthesia with intraoral approach.

##### Conclusion

Cemento-ossifying fibroma can exhibit different behaviors clinically and radiologically. After performing differential diagnosis from other fibroosseous lesions conservative treatment such as enucleation with follow-up will be more appropriate treatment option than radical surgeries like resection, especially in young patients.

**Keywords:** Cemento-ossifying fibroma, mandibula, enucleation

#### Introduction

Cemento-ossifying fibroma (COF) is uncommonly seen fibro-osseous lesion originate from mesenchymal cells of the periodontal ligament<sup>1,2</sup>. It consists of fibrous tissue matrix and contains calcified or cementoid structure<sup>3</sup>. The COF usually occurs premolar and molar region of the mandible without any symptoms or rarely seen with some symptoms such as expansion, paresthesia or anesthesia<sup>3,4</sup>. It has slow growth pattern and radiologically, is shown well-demarcated, radiolucent or mixed image<sup>2,5</sup>. It is central neoplasm of the bone and induced confusing of terminology because of the clinical and radiological behavior<sup>1</sup>. Thus, it should be separated from other fibro-osseous neoplasm and determined the most appropriate treatment option. Enucleation or surgical resection which is used in treatment of large or aggressive lesions, may be considered as the treatment methods in the management of COF<sup>6,7</sup>. In this case report, we present surgical treatment of a case of cemento-ossifying fibroma located in the ramus of the mandible.

#### Case Report

A 12-year old male patient admitted to Oral and Maxillofacial Surgery Service of Ordu University for the routine examination. After clinical and radiological examination, well-demarcated radiolucent lesion in the ramus of the right mandible which includes calcified material and impacted second and third molars, was observed (Figure 1). The patient had no swelling, expansion, paresthesia and lymphadenopathy.



Figure 1: The radiological appearance of the lesion before surgery.

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### Surgical procedure

Conservative surgical excision with intraoral approach was planned under general anesthesia. After the endotracheal intubation, local anesthetic infiltration with 2% articain was done. A full thickness flap was raised buccally and lingually to identify the tumour mass. The lesion was enucleated totally, the impacted tooth were removed and then, the cavity was irrigated with saline solution. The primary closure was done and the enucleated specimen was sent to histopathological examination within 10% formalin solution. No complication and recurrence occur during the periodic follow-up of the patient through 18 months (Figure 2).



Figure 2: The post-operative 6<sup>th</sup>-months control shows the new bone formation.

### Discussion

The COF is a benign neoplasm whose etiology is still under debate. It considered to occur as a result of the differentiation of the periodontal ligament cells associated with infection, trauma or tooth extraction<sup>4,8</sup>. However, the presence of this lesion in other anatomic regions such as maxillary antrum, temporal or frontal bone outside the jaws suggests that the ectopic periodontal membrane or undifferentiated mesenchymal cells may be considered as the other possible etiological factors<sup>2,9</sup>. In this case, we think that the history of trauma reported by the patient may be the possible etiologic factor that contribute the occurrence of the tumor.

The COF has a characteristic centrifugal growth pattern that represents the growth of the tumor equally in all directions<sup>1,9</sup>. It is usually treated with enucleation; however, a recurrence rate of % 28 in patients who treated with enucleation or curettage, has been reported in the literature<sup>10</sup>. The resection may be considered for aggressive lesions that tend to grow and cause significant facial asymmetry<sup>6,10</sup>. We preferred the enucleation which was the minimally invasive treatment method, as the treatment option for the young patient in present case.

Considering the various clinical behaviors of the COF the most appropriate treatment modality should be chosen. Long-term follow-up is necessary because of the potential of recurrence.

### References

1. Sarwar HG, Jindal M, Ahmad S. A case report of cemento-ossifying fibroma. *Journal of maxillofacial and oral surgery*. 2010;9(2):178-81.
2. Cecchetti F, Luciani F, Bramanti E, Bartuli F, Ottria L, Arcuri C. Cemento-ossifying fibroma juvenile of the oral cavity. *ORAL & implantology*. 2010;3(1):33.
3. Bertrand B, Eloy P, Cornelis JP, Gosseye S, Clotuche J, Gilliard C. Juvenile aggressive cemento-ossifying fibroma: Case report and review of the literature. *The Laryngoscope*. 1993;103(12):1385-9.
4. Naik RM, Guruprasad Y, Sujatha D, Gurudath S, Pai A, Suresh K. Giant cemento-ossifying fibroma of the mandible. *Journal of Natural Science, Biology, and Medicine*. 2014;5(1):190.
5. Mohapatra M, Banushree C, Nagarajan K, Pati D. Cemento-ossifying fibroma of mandible: An unusual case report and review of literature. *Journal of oral and maxillofacial pathology: JOMFP*. 2015;19(3):405.
6. Khanna M, Buddhavarapu SR, Hussain SA, Amir E. Cemento-ossifying fibroma of paranasal sinus presenting acutely as orbital cellulitis. *Journal of radiology case reports*. 2009;3(4):18.
7. Katti G, Khan MM, Chaubey SS, Amena M. Case Report: Cemento-ossifying fibroma of the jaw. *BMJ case reports*. 2016;2016.
8. Dalghous A, Alkhabuli JO. Cemento-ossifying fibroma occurring in an elderly patient. A case report and a review of literature. *Libyan journal of Medicine*. 2007;2(2):95-8.
9. Bernier JL, Thompson HC. The histogenesis of the cementoma: Report of 15 cases. *American journal of orthodontics and oral surgery*. 1946;32(9):A543-A55.
10. Eversole L, Leider A, Nelson K. Ossifying fibroma: a clinicopathologic study of sixty-four cases. *Oral surgery, oral medicine, oral pathology*. 1985;60(5):505-11.