

## **A cemento-ossifying fibroma of the mandible in an 18 years old female patient: A case report**

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### **AIM**

Cemento-ossifying fibromas (COF) are fibro-osseous lesions, a heterogeneous group of rare and benign lesions of unknown etiology affecting the jaws and other craniofacial bones. COF are characterized by the replacement of normal bone by fibrous tissue, which contains a newly formed, mineralized product. They are included in the group of mesodermal odontogenic tumors; they are seen more commonly in women (5:1) between the third and fourth decades of life and the most common location is in premolar-molar region of the mandible. In the 2017 World Health Organization classification of odontogenic lesions, the term COF was added in order to separate it from the clinicopathologic entities of the juvenile ossifying fibromas (more aggressive)<sup>1</sup>. Clinically, these tumours manifest as a slow-growing intra-bony asymptomatic mass, over a period of time lesion may become large enough to cause facial asymmetry. Radiologically, cemento-ossifying fibroma shows a number of patterns depending on the degree of maturation of the lesion<sup>2</sup>. Histologically, these tumours are composed of well vascularized fibrocellular tissue with the capacity to form immature bone trabeculae and cementoid formations, though these findings are not specific of the lesion and can also be seen in fibrous dysplasia<sup>3</sup>. A definitive diagnosis therefore requires correlation of the clinical, radiological and histological findings. The aim of this paper is to report a case of COF showing radiological and anatomic features of these tumors.

### **MATERIALS AND METHODS**

A 18-year-old female patient, with no relevant medical history, reported to our sector of Oral Medicine (University Hospital "Policlinico Paolo Giaccone"

Palermo, Italy) with a chief complaint of slow-growing gum swelling in the lower right back retromolar region for two years. She gave history of pain on chewing food not associated with any discharge, trauma or paresthesia. On extra-oral examination and palpation nothing was noted. On intraoral examination, a single, round, elevated nodule, non-ulcerated, sessile, with some white spots and localized in the center of the alveolar crest, distally to the 47 was seen (48 was not erupted). Tooth 47 tested positive to pulp test.

Panoramic x-ray and Intra-Oral Periapical Radiograph of the area showed a well-defined radiopaque lesion above the alveolar crest of the unerupted 48 and intrabony, along the mesial root of 48 with radiopaque scalloped border. Computerized tomography confirmed the previous radiographic finding. After obtaining consent from the patient, surgical enucleation of the lesion on the alveolar crest with curettage of the bone lesion was done under local anesthesia with a piezosurgery device.

## RESULTS

Histological examination revealed a fibrous connective tissue with an increase in cells growth characterized by some areas of mature bone tissue and basophilic calcific areas. Cellular component was composed of fibroblast arranged in different patterns. Calcified area appeared to be composed of cementum like material. There were no atypias or mitotic figures. Patient came back for stitches removal and we noticed the complete healing of the mucosa. Up to date, the patient is under follow up. A new follow up panoramic x-ray was prescribed for the six-month follow-up appointment.

## DISCUSSION

COF has always been surrounded by controversy regarding the terminology and criteria of diagnosis because it is derived from the mesenchymal blast cells of the periodontal ligament, and has a potential to form fibrous tissue, cement and bone or a combination of such elements. In the decades since the conception of the terminology COF, much has changed regarding our understanding, imaging, histopathological categorization and treatment strategies of the various fibro-osseous lesions. The diagnosis of COF of the jaw can be established based on both clinical, radiographic and histo-pathological features. Complete surgical removal of the lesion at the earliest possible

stage is advised because average recurrence rate of COF is reported between 10.1% and 28%, with an average follow-up of 38 months. Hence an average follow-up period of 10-years is advocated.

**Keywords: odontogenic tumors, COF, fibro osseous lesion, cemento ossifying fibroma, mesodermal tumors**

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