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# PERIPHERAL CEMENTO-OSSIFYING FIBROMA –A CASE REPORT

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## Abstract

Cemento-ossifying fibroma is a benign fibro-osseous maxillary tumor belonging to the same category as fibrous dysplasia and cement-ossifying dysplasia.The aim of present study was to report a case of cemento-ossifying mandibular fibroma .Here a clinical case of a 36-year-old woman with the chief complaint of swelling in 33, 34 region. The definitive diagnosis was cemento-ossifying fibroma. Complete surgical removal of the lesion was carried out under infiltrating local anesthesia. The bone bed was subjected to curettage. The postoperative course was favourable, and one year later the patient reported no discomfort in the zone. The prognosis is usually good in such cases, since recurrences are not frequent. This was confirmed in our case, since repair of the affected area was seen to be one year after treatment, though longer follow-up is required.

**Key words:**

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## Introduction:

Cemento-ossifying fibroma is a benign fibro-osseous maxillary tumor belonging to the same category as fibrous dysplasia and cement-ossifying dysplasia.[1] It is most commonly seen between the third and fourth decades of life [2-6] and is more frequent in women than in men (4:1). The most common location is the mandible, with 70-90% of all cases. [1,2] Clinically, these tumours manifest as a slow-growing intrabony mass that is normally well delimited and asymptomatic though overtime the lesion may become large enough to cause facial deformation.[3] Radiologically, cemento-ossifying fibroma shows a number of patterns depending on the degree of mineralization of the lesion. The latter manifests as a well delimited unilocular lesion containing variable amounts of radiopaque material.[1-6] Histologically, these tumors 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 dysplasias.[4] A definitive diagnosis therefore requires correlation of the clinical, radiological and histological findings .[5]Treatment comprises surgical resection of the lesion with enucleation and curettage of the bone bed.[2,6] The aim of present study was to report a case of cement-ossifying mandibular fibroma .

## Case report:

A 36-year-old woman presented with the chief complaint of swelling in 33, 34 region in department of Periodontology and Implantology, Institute of Dental Sciences ,Bareilly. She presented

no other symptoms, had no medical history of interest, and reported no toxic habits or drugs use. The oral mucosa was normal, and the teeth in the lesion zone (between both lower canines) showed no alterations. The swelling was white to brown in colour, soft in consistency measuring about 2x2 cm. It increased in size slowly, it was first noticed 1 year back, it was non tender. Pulp vitality of the teeth adjacent to the lesion proved positive. The radiological study showed no dental displacement.

A sample of the lesion was obtained for histopathological study, which revealed the presence of a fibrocellular stroma comprising of plump to spindle fibroblasts, collagen fibers. Spherical hematoxephilic calcifications representing cementicles were seen. Endothelial lined blood vessels were present. The definitive diagnosis was peripheral cemento-ossifying fibroma. Complete surgical removal of the lesion was carried out under infiltrating local anaesthesia. The bone bed was subjected to curettage. The postoperative course was favourable, and one year later the patient reported no discomfort in the zone.

**Discussion:**

Cemento-ossifying fibroma is a benign fibro-osseous maxillary tumor.[6] It is a slow-growing lesion most often seen in women between the third and fourth decades of life. While one-half of all cases are asymptomatic, the growth of the tumor over time may lead to facial asymmetry, with the appearance of a mass causing discomfort or mandibular expansion, and the possible displacement of dental roots.[2,7] Control panoramic X-ray study confirmed good bone regeneration in the zone.

The World Health Organization classifies cemento-ossifying fibroma as a fibro-osseous neoplasm included among the non-odontogenic tumors derived from the mesenchymal blast cells of the periodontal ligament, with a potential to form fibrous tissue, cement and bone, or a combination of such elements.[1,7] However, there is controversy over such an origin, since tumors of similar histology have been reported in bone lacking periodontal ligament and not located in the maxillary region, such as ethmoid bone, frontal bone or even long bones of the body (cementiform fibrous dysplasia)[10-14] Clinically, the tumor tends to present as a slow-growing intrabony mass most often located in the region of the mandibular premolars and molars and in the ascending ramus in contrast to the anterior mandibular location of our case. The growth is usually asymptomatic, though there may be a degree of root reabsorption or displacement of neighbouring teeth.[2,6,8] These phenomena were not noted in our patient. There have been reports of more aggressive lesions characterized by rapid and extensive growth, capable of causing mandibular fractures, and multiple lesions have also been documented. Likewise, a more aggressive juvenile form has been described as juvenile cemento-ossifying fibroma .[1,15]

Radiologically, these tumors may present a number of patterns depending on their degree of mineralization.[6] Two basic patterns have been defined: one characterized by the presence of a unilocular or multilocular radio transparent image, and another showing mixed density due to a variable internal amount of radiopaque material.[1,2] The margins of the lesion are relatively well defined and present a peripheral osteocondensation zone.[1] The fibroma is of concentric appearance within the medullary zone of the bone, and the cortical layers are preserved.[1] In some cases the lesions are seen to be associated to root reabsorption and displacement of the roots of the neighbouring teeth.[6]

The histological study shows the presence of generally hypercellular fibrous tissue with the occasional presence of islands of bone tissue or cementiform calcifications.[1,6] Within the fibrous stroma we observe mineralized tissue masses of basophilic appearance, corresponding to osteoid material or cement,[2] distributed throughout the lesion to one degree or other, and accompanied by dystrophic calcifications with darker or basophilic staining characteristics.[2,6] The morphology is benign with very little proliferative activity and the absence of atypias or necrosis.[2]

The differential diagnosis with fibrous dysplasia particularly with the cementifying variant is complicated ,since the morphology is very similar in both cases. A definitive diagnosis is thus established upon also considering the clinical and radiological findings. Ossifying fibroma always

presents well defined margins. Several sections of the sample must be carefully examined, since the identifying histopathological features are sometimes conditions to be taken into account are lesions appearing as a mixed periapical image such as calcifying odontogeniccysts or cementoblastomas, which are seen to be associated to the roots of vital permanent teeth. Likewise, focal cemento-osseous dysplasia appears as a radiotransparency associated to the dental apexes, and in more advanced stages presents extensive radiopaque areas surrounded by a radio transparent halo.[1,2,] However, although there are radio transparent zones due to such lesions, no radiopaque areas are seen of multilocular appearance in the course of their evolution.

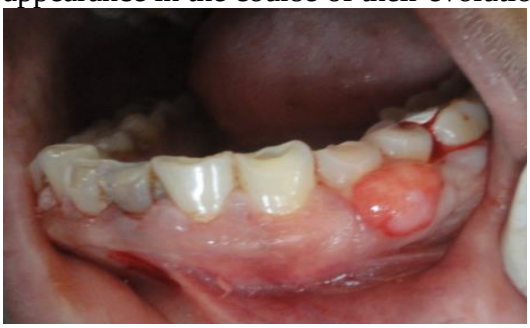

**Fig 1: Preoperative view**

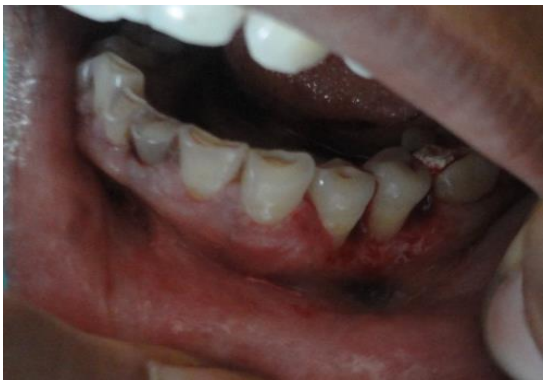

**Fig 2: Postoperative view**

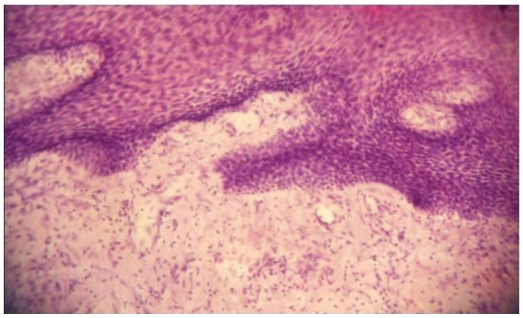

**Fig 3: Histopathological view**

**Conclusion:**

Due to the good delimitation of the tumor, surgical removal and curettage is the treatment of choice.[2,3.] In cases of very large lesions with important tissue ablation, the challenge is to replace the affected tissue. The prognosis is usually good, since recurrences are not frequent. This was confirmed in our case, since repair of treatment the affected area was seen to be correct one year after though longer follow-up is required.

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