



## Peripheral ossifying fibroma, diagnosis-treatment, literature review and presentation of a clinical case

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### Abstract

Peripheral ossifying fibroma is a benign lesion of the gingival tissues, considered by some authors as a fibro-osseous lesion and by others as a reactive inflammatory lesion. It occurs more frequently in women, is usually asymptomatic and slow-growing, although it can reach large dimensions if not treated promptly. Its etiology is not fully defined, but it is associated with local irritative factors such as trauma, periodontitis, poor oral hygiene, or ill-fitting prostheses. This article describes the clinical, radiographic, histological and therapeutic characteristics of peripheral ossifying fibroma, through a literature review and the presentation of a clinical case operated on at the Zone General Hospital # 53, Mexican Institute of Social Security, in Mexico City, Mexico.

**Keywords:** Inclusive marketing, underrepresented communities, messaging strategy, intersectionality, representation, brand authenticity, consumer trust

### Introduction

There is a group of interesting entities due to their unique nature, such as fibro-osseous lesions of the jaws. These lesions belong to a group of benign, non-odontogenic neoplasms that particularly affect the craniofacial region. Its main characteristic is that normal bone is replaced by a tissue composed of collagen fibers, fibroblasts and a certain part of mineralized tissue. Ossifying fibroma is a benign neoplasm of slow progression and distorted tumor affecting the maxilla and mandible; it can cause a slight asymmetry that radiographically includes a radiolucent and radiopaque appearance [1, 2].

### Neoplasia

It refers to a neof ormation or uncontrolled and rapid growth of cells in some tissue or organ of the body; it develops in an abnormal, autonomous, and irreversible manner. It is accompanied by deficient cell differentiation and shows the reproduction of a new mass that occupies a place in the organism and rejects or infiltrates adjacent tissues [3, 4].

### Fibro - osseous lesions

Fibro-osseous lesions of the jawbones are considered benign and comprise a group of pathological conditions such as dysplastic and neoplastic lesions which share histopathological characteristics with each other. They are called fibro-osseous because there is a replacement of bone tissue by fibrous connective tissue composed of collagen fibers and fibroblasts, in different stages of maturity and in various amounts of calcified material, which resembles root cement [5, 6]. These include fibrous dysplasia, cemento-osseous dysplasia, and ossifying fibroma. Table 1 shows the classification of these lesions according to the World Health Organization. Despite their benign nature, these types of

lesions are often extensive, invasive, and destroy large amounts of tissue.

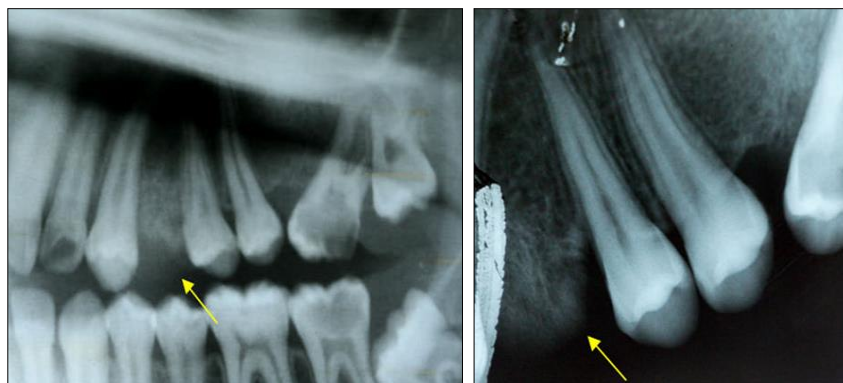
Table 1: WHO 2022 Classification for Fibro- Osseous Injuries

Cemento-osseous dysplasia
Segmental odontomaxillary dysplasia
Fibrous dysplasia
Juvenile trabecular ossifying fibroma
Psammomatoid ossifying fibroma
Familial gigantiform cementoma

Source: World Health Organization (WHO). WHO classification of tumors: Head and neck tumors. 2022.

### Peripheral ossifying fibroma

It is a growth of soft tissue, which is not usually neoplastic and is not considered a fibro-osseous lesion. It is rare and has reactive and inflammatory characteristics. It is located in the interdental papillae and originates from cells that arise from the periodontal ligament, in which cells can transform into fibrous tissue, laminar bone, or cementum, which appear in response to an irritant or trauma. It is an exclusive late-growing, painless gingival mass, 1.5 cm in diameter, with whitish areas due to calcifications. This condition has a high incidence in the incisor-canine area. It occurs in adolescents and young adults between the ages of 20 and 30, with a high prevalence in women. Radiographically, peripheral ossifying fibroma presents diffuse radiopaque areas. These characteristics are key to diagnosing them and differentiating them from other lesions. These radiographic images show a well-defined lesion with radiolucent and radiopaque areas, as well as expansion of the bone cortex. That depends largely on the degree of calcification and how the lesion develops.



**Source:** González C. Peripheral ossifying fibroma in the maxilla. ¿Reactive lesion or true neoplasm? Case report. *Act. Odontologica*, 2010;48(3): 1-13

Some areas may present radiolucent zones (in early stages), while others where central ossification is more evident result in mixed zones (radiolucent and radiopaque).

The treatment for this type of neoplasm is complete surgical removal, curettage of the periosteum and periodontal ligament. In cases where teeth are affected, they must be removed to prevent recurrence. [7, 8, 9]

#### Clinical Case

A 63-year-old female patient presented with a 6x4x4 cm increase in volume in the left vestibular region, in the premolar-molar area. The lesion had a lobulated appearance, a reddish color with whitish and hemorrhagic areas, and a soft consistency. It was asymptomatic and caused facial

asymmetry (Fig. A, B).

The surgery was performed under regional anesthesia using 2% xylocaine with epinephrine in the vestibular and palatal regions. A linear incision was made in the pocket, and a mucoperiosteal flap was carved, exposing the vestibular and palatal regions and revealing the entire lesion. The lesion is then resected in its entirety, including the capsule, and curettage of the surgical bed is performed on the vestibular plate, remodeling the bone defect. (Fig. C). The wound was finally sutured with Vicryl 3-0 with isolated stitches. The sample was sent to pathology for final diagnosis. Histopathological examination confirmed the clinical diagnosis, which was conclusive for peripheral ossifying fibroma (Fig. D,E).



**Fig A:** Expansion of the vestibular table producing facial asymmetry. B. Large volume increase is appreciated in left vestibular region that hinders phonation and adequate chewing.



**Fig C:** Surgical enucleation of the lesion with free margins was performed, removing the affected bone, thoroughly curetting the surgical bed



**Fig D:** Macroscopic sample of the lesion is observed. E. Histological cut, in which areas of fibrous connective tissue, mineralized material and fibroblasts are appreciated in a context stained with hematoxylin and eosin

### Discussion

Peripheral ossifying fibroma is a benign lesion that belongs to the group of bone fibro lesions. According to McDonald, Kendrick and collaborators 2010, pág. 133; classify it as an inflammatory reactive lesion of the gums. It is an asymptomatic slow-growing lesion with a greater predilection for the female sex, although its etiology is not very well determined, triggering factors such as trauma, periodontal disease, inflammatory processes around the periodontal ligament, poorly fitted oral prosthetic hygiene are said to intervene. With the aim of making an adequate and certain diagnosis the histopathological study is indispensable, as it contributes to the exact subtype of the ossifying fibroid; since as a whole it presents a wide variety and clinical appearance.

### Conclusions

Ossifying fibroma can affect the facial bones (central ossifying fibroma), or appear in the soft tissues (peripheral) and develops according to researchers from the periodontal ligament. As we have commented its clinical appearance is variable in terms of coloration, shape and size. In the case presented in this article it is a sessile base lesion, of firm consistency, erythematous, asymptomatic; in the anterior region of the maxilla.

The surgical removal involved a wide exeresis of the lesion that included the periosteum and periodontal ligament guaranteeing the safety margin. Without a doubt we must incise on the triggering factors with a view to preventing recurrences. The clinical history and physical examination are necessary to carry out a timely diagnosis, and the histopathological study in addition to guaranteeing the certainty of the diagnosis is useful also to rule out malignant lesions.

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