**The Ossifying Fibroma**
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**Overview**

Ossifying fibromas are benign tumors of fibrous tissue and bone and they are most commonly seen in the mandibular premolar area in younger patients. It is a true neoplasm of medullary jaws and they are elements of the periodontal ligament. Ossifying fibromas have a well delineated sclerotic border. In the article, "Ossifying fibroma of the jaws: Review of 57 cases in Enugu and of global literature." *Okwuosa, et al. 2022* stated: “OF (70%) is the most common benign fibro‐osseous neoplasm of the craniofacial region”. Ossifying fibromas are characterized by the replacement of normal bone with fibrous tissue and varying degrees of calcification. These lesions can be challenging in terms of diagnosis and management because they are rare lesions and when a condition is rare, dental and medical professionals may not be familiar with the condition since they typically don’t come across certain conditions.

**Etiology**

 The exact etiology of ossifying fibromas remains unclear. However, they can be odontogenic, developmental, or traumatic. These benign lesions are considered to be formed from “pluripotent mesenchymal cells that originate from the periodontal ligament”. (*Hamner et al, 1968).* Based on electron microscopic studies, *Kempsoh* realized that ossifying fibromas are formed by fibrous tissue “as repairing attempts to a bony defect”. An induction error in the mesenchymal cellular level can also be related to the development of ossifying fibromas according to *Marx et al.* As mentioned previously, trauma can also be related to the development of ossifying fibromas because trauma can “stimulate the progenitor cells” according to *Weing.*

***All of the information listed under “etiology” was obtained from the article, “Ossifying Fibroma of maxilla:Updated Review of Literature and a Case Report” by Shanab et al, 2021.***

**Clinical Presentation**

#  Ossifying fibromas are characterized by asymptomatic benign lesions with highly variable sizes. It generates “bone expansion in the cortices and osteolysis of the affected area”. *Knko. et al, 2023: “Massive ossifying fibroma of mandible: A case report and review of the literature”.*

Objective: Present as expansile, well-defined mixed radiolucent and radiopaque lesions with calcification present on radiographs. A mass will also be visibly present on the jaw. Histologically, these lesions reveal a proliferation of fibroblasts and mineralized tissue is also present.

Subjective: Ossifying fibromas are asymptomatic majority of the time, and they may be discovered accidentally during routine radiographs. Patients may complain about pain, swelling, pressure, and facial asymmetry.

**Demographic**
 Ossifying fibromas are seen in the younger populations. These benign lesions can occur in either males or females but, they have a slightly higher predominance in females. In the article, “Ossifying Fibroma in the Maxilla and Mandible: A Case Report With a Brief Literature Review.” By Chidzonga. et al, it states that ossifying fibromas have a “female predominance in the third and fourth decades of life”. No clear racial predilection has been reported.

**Biopsy / Histology / Radiographs**

 For a definitive diagnosis, an excision biopsy will be performed. The histology is similar to fibrous dysplasia. Histological features include irregular shaped trabecular bone in a loosely arranged fibrous stroma connective tissue. Ossifying fibromas start out as radiolucent and become radiopaque as they develop. The more radiopaque, the denser it is.

**Differential Diagnosis**

 Ossifying fibromas can be reasonably mistaken for fibrous dysplasia and psammomatoid meningioma. To achieve accurate differentiation; clinical, histologic, and radiographic evaluation is needed.

**Treatment**

 Treatment includes a surgical excision, and it shells out. The surgical excision will remove the lesion. The recurrence rate is low but, follow-ups are important to monitor potential recurrence. In cases where an ossifying fibroma becomes giant, reconstructive surgery may be on the table. When there is a severely large ossifying fibroma in a critical anatomic location that is decreasing the quality of life, reconstructive surgery following an excision will be performed to restore facial function and aesthetics.

**Prognosis**
 Prognosis with treatment: When a surgical excision of the ossifying fibroma is successful, the lesion will be completely removed while also preserving the vital structures (if the lesion invades important vascular and nervous structure). A proper surgical excision results in low recurrence rates. When ossifying fibromas are diagnosed earlier rather than later, normal facial structures and function (such as chewing or talking) can be preserved.

 Prognosis without treatment: When ossifying fibromas are left untreated, facial asymmetry, displacement of adjacent structures, and bony deformities can occur. If the medical professional says that treatment is required, it should not be ignored because nerve compression can occur in rare cases. Also, people are always worried about their appearance and if it is left untreated, the lesion can just continue to grow which causes insecurities in appearances.

**Professional Relevance**

 Dental Hygienists play an important role in patient education and awareness. Ossifying fibromas are relevant to me as a Dental Hygienist because these lesions can cause poor oral hygiene since the patient will be physically incapable of cleaning the area where the lesion is present. Our main goal for our patients is to maintain proper oral hygiene to prevent oral and systemic diseases, and a lesion like an ossifying fibroma will get in the way. A clear understanding of this lesion is important for early detection during routine dental exams. Being able to identify an ossifying fibroma radiographically and clinically is crucial because then the dental hygienist will be able to provide the patient with a referral to a specialist before the lesion has the chance to progress and cause complications. Being aware and recognizing an ossifying fibroma effectively contributes to the overall oral health of a patient.

**Citations**
1. Chidzonga, Midion et al. “Ossifying Fibroma in the Maxilla and Mandible: A Case Report With a Brief Literature Review.” *Cureus* vol. 15,1 e34257. 27 Jan. 2023, doi:10.7759/cureus.34257

1. Hanan Ghazi Shanab, Dr. Hanan Ghazi Shanab. “Ossifying Fibroma of maxilla:Updated Review of Literature and a Case Report”. *Annals of the Romanian Society for Cell Biology*, vol. 25, no. 2, Mar. 2021, pp. 3089-01, <http://www.annalsofrscb.ro/index.php/journal/article/view/1288>.
2. Okwuosa, Chukwubuzor Udokwu, Mark Chukwuemeka Nwoga, and Akinyele O. Adisa. "Ossifying fibroma of the jaws: Review of 57 cases in Enugu and of global literature." *Nigerian Journal of Medicine* 31.5 (2022): 535-539.
3. Nnko, Kanankira A et al. “Massive ossifying fibroma of mandible: A case report and review of the literature.” *Clinical case reports* vol. 11,9 e7950. 25 Sep. 2023, doi:10.1002/ccr3.7950