

Surgical Treatment Of Peripheral Ossifying Fibroma: A Case Report

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Abstract:

The peripheral ossifying fibroma is a non-neoplastic gingival growth classified as a reactive hyperplastic inflammatory lesion. The pathogenesis is unknown. It is an injury that usually affects the anterior region of the maxilla and mandible and has a predilection for women that is most frequently found during the second decade of life. The purpose of this study is to report a case of peripheral ossifying fibroma in a 44-year-old patient with a history of increased volume in the anterior lingual region of the mandible with a 3-year history. Clinically it presented a well-delimited, pediculated lesion with firm and elastic consistency, with pale pink coloration and some erythematous patches. Computed tomography was requested, in which no image of cortical resorption or bone expansion was evidenced, however it was possible to visualize an image that suggested a small bone formation in the region of the lesion. Posteriorly, the patient underwent an excisional biopsy of the lesion. In the findings, the presence of oral mucosa with spindle cell proliferation was verified in the middle of a stromal with osteoid matrix and mature bone production. The treatment was the excision of the lesion with 1 year and 3 months follow-up without relapse.

Keywords: Fibroma, Ossifying; Bone Neoplasms; Diagnosis, Oral; Oral Hygiene.

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INTRODUCTION

There are two types of ossifying fibroma, the central and peripheral type. The central type arises from the endosteum or the periodontal ligament adjacent to the root apex, causing expansion of the medullary cavity. The peripheral type occurs only in soft tissues¹.

The peripheral ossifying fibroma is a non-neoplastic enlargement of the gingiva, classified as a reactive hyperplastic inflammatory lesion. The pathogenesis is unknown. Clinically and histologically, it has similarities with pyogenic granuloma and some consider the peripheral ossifying fibroma as secondary to fibrosis of granulation tissue².

It is possible that the excessive proliferation of mature tissue related to this pathology is a response to gingival injury due to chronic local irritant factors, especially those arising from the presence of dental calculus or foreign bodies in the gingival sulcus³.

It is an injury that usually affects the anterior region of the maxilla and mandible and has a predilection for women that is most frequently found during the second decade of life.

It presents as a nodular, sessile or pedunculated mass, which usually originates from the interdental papilla. Coloration varies from red to pink, and the surface is often, but not always, ulcerated.

Surgical treatment, together with the removal of any irritating factor, is indispensable because it is a lesion with high relapse rate⁴.

The purpose of this study is to report a case of peripheral ossifying fibroma in a 44-year-old patient.

CLINICAL CASE REPORT

Patient A.M.G., 44 years old, female, white, attended the ambulatory of buccomaxillofacial surgery and traumatology of the University of the State of Amazonas, with a history of increased volume in the anterior lingual region of the mandible (Figure 1).

In the anamnesis, the patient reported that the lesion had been around for 3 years and there was onset of painful symptoms in the region, besides causing dysphagia and dysphonia. The intraoral clinical examination revealed a precarious hygiene with periodontal disease and residual roots under an upper denture, as well as a well-defined, pedunculated lesion with firm and elastic consistency with a pale pink coloration and some erythematous patches in the anterior lingual region of the mandible (Figure 2).

Subsequently, an image examination was requested. No image of cortical reabsorption or bone expansion



Figure 1. Intraoral view showing a precarious oral condition.



Figure 2. Well-defined, pediculated lesion with firm, elastic consistency with pale pink staining with erythematous points.

was evidenced tomographically, but it was possible to visualize an image that suggested small bone formation in the lesion region (Figure 3).

According to the clinical and imaging characteristics, we decided to perform an excisional biopsy of the lesion, in addition to the extraction of the remained roots for subsequent creation of a new upper total prosthesis. For the excisional biopsy, an anesthetic block we performed with 4% articaine hydrochloride + epinephrine 1: 100,000 perilesional, and the incision at the base of the lesion was subsequently performed. No sutures were required, leading to healing by secondary intention.

We sent the surgical specimen of size 1.3X1.1X1.0 cm to the histopathological analysis where the presence of oral mucosa with spindle cell proliferation was verified in a stromal with osteoid matrix and mature bone production, suggesting a peripheral ossifying fibroma (Figure 4).

Given the histopathological report, the proposed treatment for this type of lesion is the surgical excision

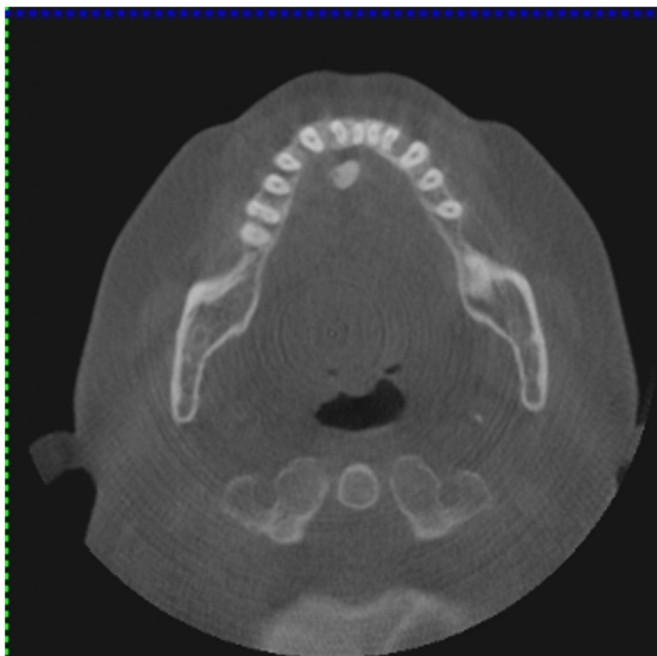


Figure 3. Computed tomography axial cut showing bone formation in the lesion region.

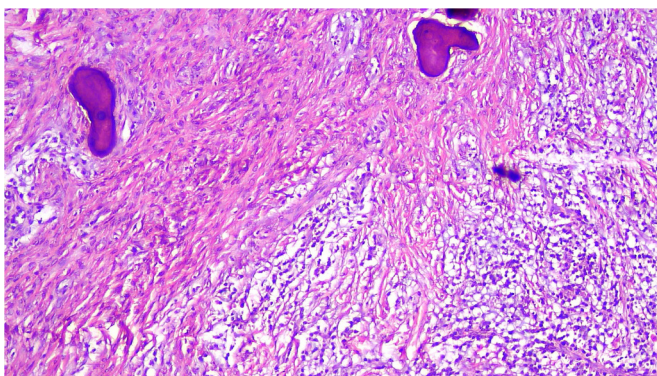


Figure 4. Histological section showing the presence of oral mucosa with spindle cell proliferation in the middle of a stroma with osteoid and mature bone matrix production.

that ended up being performed through the excisional biopsy, presenting a great postoperative period of 7 days and afterwards the patient was followed for a period of 1 year and 3 months to verify if there was no recurrence of the case (Figure 5). The patient was oriented about oral hygiene care and advised to return if there is any local changes again.

DISCUSSION

Localized gingival growths are common and typically represent reactive proliferative lesions. The peripheral ossifying fibroma is a non-neoplastic oral tissue growth, classified as an inflammatory hyperplastic



Figure 5. Prosevation of 3 months without relapse.

reactive lesion. Two theories attempt to explain an etiology of the peripheral ossifying fibroma. The first states that the peripheral ossifying fibroma is a maturation of a pyogenic granuloma, and the second, that originates from an inflammatory hyperplasia of the periodontal ligament. This theory explains the reason why this lesion exclusively affects the gingiva. There is also evidence of a calcified matrix rich in oxytalan fibers^{5,6}.

Female predilection is often found during the second and third decade of life. Because of this, was raised a hypothesis that there may be hormonal influence⁷.

The literature is consistent when it shows that the peripheral ossifying fibroma is commonly associated with poor oral hygiene, biofilm, dental calculus, irregular restorations and iatrogenic factors. The patient of this report had poor oral hygiene with biofilm accumulation, subgingival calculus and retained roots fragments, corroborating that the peripheral ossifying fibroma may be associated with irritating factors.

Regarding the site of involvement, it is observed that it is a lesion commonly found in the anterior region and affects both the maxilla and the mandible in similar proportions, with mild predilection for the maxilla. It affects people of any age, peaking in the second and third decade of life⁸. A predilection for white people is observed^{4,9,10}.

Clinically, it presents itself as a nodular lesion, exophytic, pedunculated in the majority of cases, reddish color interspersed with whitish areas or similar coloring to that of the adjacent mucosa.

Histologically, the lesion exhibits a proliferation of fibroblasts associated with the formation of mineralized material which may consist of bone,

cementum-like material or dystrophic calcifications¹¹. Radiographically, they may exhibit areas of diffuse radiopaque calcifications, but many lesions do not exhibit this radiographic appearance⁹.

The differential diagnosis of the peripheral ossifying fibroma includes all nodular lesions that occur in the gingiva such as fibroma, giant cells fibroma, pyogenic granuloma and odontogenic neoplasms.

Because it is a lesion with a high rate of relapse (30.4%)⁴, the chosen treatment should be local excision, which should include the periodontal ligament involved, as well as any identifiable irritants.

CONCLUSION

Knowing the lesions that affect the oral cavity is of great importance for the correct diagnosis and execution of the treatment.

The peripheral ossifying fibroma is a benign, non-neoplastic lesion caused by chronic irritation that is related to the periodontal ligament.

It becomes necessary the access and awareness process of the population about the oral hygiene as well as general health.

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