

Peripheral odontogenic fibroma: case report of a rare tumor mimicking a gingival reactive lesion

Fibroma odontogênico periférico: relato de caso de uma lesão rara mimetizando uma lesão reacional

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Resumo

Objetivo: Relatar um caso de um tumor raro imitando uma lesão gengival inflamatória tendo em foco não apenas as suas características, mas realizando um diagnóstico diferencial aprofundado com as lesões inflamatórias; a fim de colaborar para um diagnóstico mais eficiente por parte dos clínicos. **Descrição do caso:** Um paciente do sexo feminino, de 20 anos de idade apresentava uma massa gengival sésil e assintomática - entre os dentes 32 e 33 - com duração aproximada de 1 ano. Após biópsia excisional, a análise histológica revelou um neoplasma odontogênico caracterizado pela presença de ilhas de epitélio odontogênico aparentemente inativo, localizado em um estroma fibro-mixóide. Características consistentes com o diagnóstico de fibroma odontogênico periférico. **Conclusão:** O fibroma odontogênico periférico é freqüentemente confundido com uma lesão reacional inflamatória. No entanto, a presença de particularidades de cada lesão pode auxiliar o clínico, a fim de se obter um diagnóstico mais preciso. A biópsia excisional é o tratamento mais indicado. Porém, o prognóstico do fibroma odontogênico periférico pode ser diferente, devido a sua raridade e pouca informação sobre seu acompanhamento de longo prazo.

Descritores: Diagnóstico diferencial; fibroma odontogênico periférico; tumores odontogênicos.

Abstract

Purpose: To report a rare tumor mimicking a gingival inflammatory lesion focusing not only on its characteristics, but making a deepened differential diagnosis with inflammatory lesions, in terms to collaborate for an accurate diagnosis as possible by the clinicians. **Case description:** A 20-year-old woman presented an asymptomatic sessile gingival mass - between teeth 32 and 33 - with 1 year of duration. An excisional biopsy was performed and the histological examination revealed an odontogenic neoplasm characterized by the presence of islands of apparently inactive odontogenic epithelium, in a fibromyxoid stroma; all features consistent with the diagnosis of peripheral odontogenic fibroma. **Conclusion:** Peripheral odontogenic fibroma is often misdiagnosed as an inflammatory lesion. However, the existence of particularities of each lesion can guide the clinical to a more efficient diagnosis. Excisional biopsy is their treatment of choice, whereas; the peripheral odontogenic fibroma prognosis may be different given its rarity and its few data about long-term follow-up.

Descriptors: Differential diagnosis; peripheral odontogenic fibroma; odontogenic tumors.

INTRODUCTION

Peripheral odontogenic fibroma (PODF) is a rare benign neoplasm. It is normally represented as a sessile, painless and smooth-surfaced mass in the gingival region and it is conceived as the mucosal analogue of central odontogenic fibroma¹. The histological aspect consists in a proliferation of fibromyxomatous connective tissue with odontogenic epithelium (quantity may vary) and occasionally presents sites of calcification (dentinoid, cementicles or osteoid)².

This type of lesion is more frequent in patients between the second to fourth decades of life. The incidence in the lower jaw is higher, with the anterior and pre-molar regions being the most involved sites. Also, PODF has a higher prevalence in females³⁻⁵.

PODF is frequently misdiagnosed as a reactive inflammatory lesion, because of its similar appearances and sites involved. In this report, we describe a case of PODF in the anterior mandibular region discussing the management of this lesion and how to make a more efficient diagnose as well.

CASE REPORT

A 20-year-old woman came to the Oral and Maxillofacial Pathology Department of João de Barros Barreto University Hospital presenting an asymptomatic sessile gingival mass in the anterior jaw area – between 32 and 33 teeth - with, approximately, 1 year of duration (Figure 1). It was observed a slight edema of the gingiva near of the mass, probably, due to a irritation caused by a certain quantity of plaque. Some erosions were, also, present in the mucosa of the mass. Those characteristics were suggestive of a pyogenic granuloma.

With this clinical hypothesis, an excisional biopsy was carefully performed and the histological examination revealed an odontogenic neoplasm characterized by the presence of islands of apparently inactive odontogenic epithelium (Figure 2a) and with spherical cementum-like calcifications, in a fibromyxoid stroma (Figure 2b). All features consistent with the diagnosis of peripheral odontogenic fibroma.

DISCUSSION

Peripheral odontogenic tumours are very rare. In a study with 1113 odontogenic tumors, only 4% were composed by PODF and it was not even one of the five top rated lesions⁶.

PODF is as uncommon as intricate. Some recent analysis³⁻⁷ exhibited a certain pattern related to age, gender and anatomic location. These studies showed that PODF can affect a wide age range, but its peak incidence turned between the second to fourth decades of life. It was observed a slight preponderance for the female gender³⁻⁷ and, also, a higher incidence in the mandibular region, particularly on its anterior area^{3,4,6,7}. The characteristics presented in our case are consistent with the literature review.

The clinical diagnosis of PODF is not easy to be done due to its similarity to others lesions - particularly, reactive inflammatory



Figure 1. Preoperative clinical presentation of the lesion.

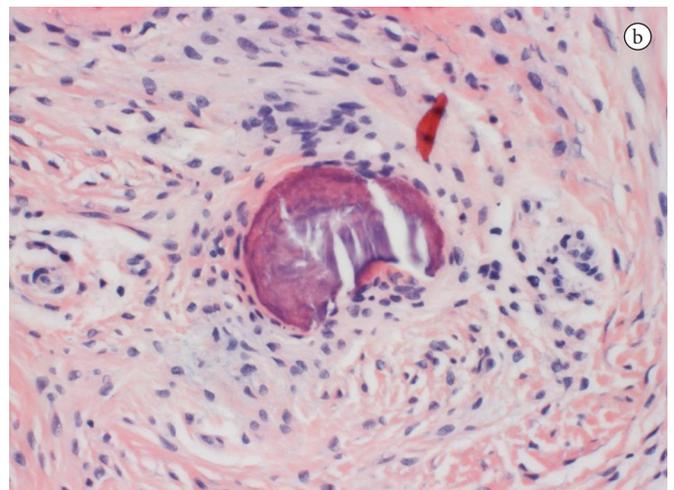
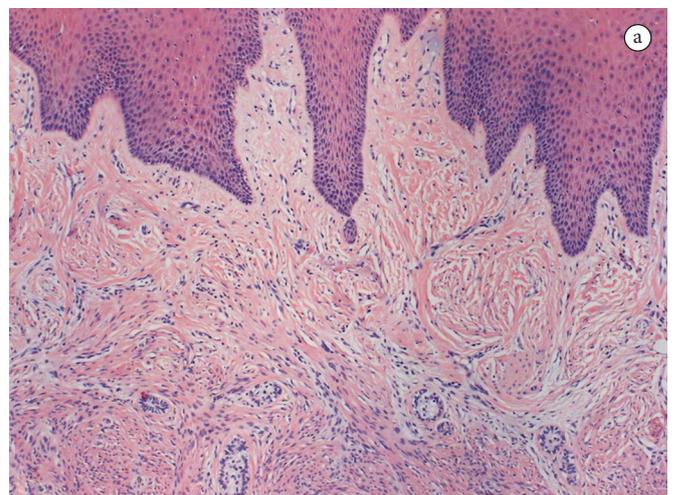


Figure 2. a) Photomicrograph showing an odontogenic neoplasm characterized by the presence of islands of apparently inactive odontogenic epithelium, within an abundant collagenous stroma - richly composed by fibroblastic cells - with a fasciculated arrangement (H&E, 20 \times). b) Photomicrograph showing a spherical cementum-like calcification (H&E, 40 \times).

ones. They can have in common not just the appearance, but age, gender and the same site of involvement. Therefore, it is considerably important to know these differential diagnoses, such as pyogenic granuloma, peripheral ossifying fibroma and

peripheral giant cell granuloma, to obtain more security in terms of patient's prognostic.

Pyogenic granuloma (PG) is an inflammatory reactive lesion, represented by soft tissue and vascular hyperplasia that can be stimulated by hormonal changes, chronic local irritation and trauma. It occurs as an exophytic and erythematous mass with a sessile or pedunculated base^{8,9}.

Its peak incidence is, just as POF, in the second to fourth decade of life⁸ and is more frequent in females as well^{8,9}. However, pyogenic granuloma is usually followed by pain and bleeding⁸. Also, PG is usually present in the maxillary gingiva^{8,9}, while POF occurs mostly in the mandibular gingiva. PG's histological analysis shows a vascular proliferation similar to granulation tissue. The mass also presents numerous endothelium-lined channels (small to large ones) obstructed by red blood cells. PG's surface is usually ulcerated and a mixed inflammatory infiltrate with lymphocytes, neutrophils and plasma cells is commonly present⁸. However, the odontogenic epithelium, a fibromyxomatous connective tissue and, occasionally, sites of calcification (dentinoid, cementicles or osteoid) presented by POF leads to a non-difficult diagnoses².

Peripheral ossifying fibroma (POF) is a reactive lesion characterized by a soft tissue growth nodule and is, probably, originated from the periodontal ligament fibers. POF can be sessile or pedunculated and its appearance may vary from pink to red (ulcerated) and, also, from smooth to irregular surfaces. Mineralization focuses are commonly observed, presenting a cementum-like, bone or dystrophic calcification arrangement¹⁰.

POF's incidence is higher in the second decade of life, tending to decrease after the third decade. This lesion is usually present in women, which may be related to hormonal changes. POF occurs predominantly in the anterior maxillary, particularly on its interdental papilla¹⁰. Therefore, POF is, in contrast to POF, more frequent in young patients. Its local of occurrence is, likewise, inconsistent with the one presented by POF; which is the anterior mandibular area. Also, there are some histopathologic similarities involving POF and POF which deserve attention by the pathologists. Both consist in a fibroblastic proliferation and may share bone, cementumlike or dystrophic calcifications. Although, Sciubba et al.¹¹ showed that the main difference between these two lesions is the presence of the odontogenic

epithelium present, only, in POF. Another important difference is that POF respective connective tissue tends to be more cellular than POF's one, those two features can guide the pathologists to a secure diagnoses¹¹.

Peripheral giant cell granuloma (PGCG) can be originated from the periosteum or periodontal membrane. It's presented as a red-purple nodule that occurs in locals with previously irritation as tooth extraction, plaque and calculus¹². PGCG may cause superficial bone erosion, although it is rare¹³.

PGCG has, differently from POF, an equal incidence in both genders. Also, PGCG occurs mostly in patients between the fifth and sixth decades of life, while POF is more restricted from the second to fourth decades¹². Both lesions are more frequent in the lower jaw. However, PGCG is usually present on its posterior area, which is the opposite from POF¹³. Histologically, POF may present multinucleate giant cells³, but these cells are present in a lower quantity than in PGCG. Peripheral giant cell granuloma can, also, present areas of bone or dystrophic calcifications. However, PGCG mass has a characteristic hemorrhage, deposits of hemosiderin and a high quantity of ovoid spindle cells – commonly on its peripheral region¹⁴. Again, the presence of the POF's odontogenic epithelium and its collagenous stroma - richly composed by fibroblastic cells - with a fasciculated arrangement are essential for the diagnoses¹¹.

CONCLUSION

POF is frequently misdiagnosed as inflammatory lesion. The clinical features are, probably, the main reason of it. However, the lack of a deepened knowledge by the clinical must be considered. Although these lesions mentioned above share many characteristics, there are particularities of each lesion that can guide the clinical and the pathologist, in terms to reach an accurate diagnosis as possible. The treatment is basically the same for POF, PG, POF and PGCG; which consists in an excisional biopsy of the lesion. Prognosis, whereas, may be different given that is not only a rare neoplasm but, due to the few data about long-term follow-up, its overall recurrence is not well-established. Therefore, it's important to maintain a close postoperative follow-up to avoid a recurrent overgrowth of incompletely removed lesions.

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CONFLICTS OF INTERESTS

The authors declare no conflicts of interests.

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