

Free Gingival Graft after Peripheral Ossifying Fibroma Excision: Case Report

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Abstract

Peripheral ossifying fibroma is classified as a non-neoplastic reactional proliferative process. The lesion arouses interest in the specialty of Periodontics, as it almost exclusively affects the gingiva, which is one of the hypotheses of etiopathogenesis of the lesion. Clinically, peripheral ossifying fibroma presents as an exophytic nodule or tumor mass; erythematous or pinkish in color; pedunculated or sessile base; smooth surface, or under trauma, it can be ulcerated, presenting painful symptoms. It can reach variable dimensions. Among the histopathological characteristics, it may present in the stroma, foci of calcified material that are sometimes visible radiographically. The lesion may be associated with poor oral hygiene, periodontal diseases, and the presence of dental calculus. The treatment of choice is surgical excision, and local irritating factors should be eliminated. Other associated treatments may be necessary, depending on the case. The performance of free gingival or connective tissue grafts has been reported in the literature. The recurrence rate of the lesion is relatively high, around 20%, usually related to the persistence of local irritating factors. The purpose of this article is to present a case of peripheral ossifying fibroma on the lingual surface of the mandibular incisors in a female patient who underwent surgical excision and free gingival graft. The clinical, radiographic, and histopathological features; incidence and frequency; etiopathogenesis; differential diagnosis; and treatment modalities were discussed.

Keywords: *Peripheral Ossifying Fibroma; Free Gingival Graft; Gingiva; Oral Diagnosis; Oral Pathology*

Introduction

Peripheral ossifying fibroma is classified as a non-neoplastic reactional proliferative process, and is relatively common in the oral cavity. Generally, the lesion affects almost exclusively the gingiva, beginning in the interdental papilla. Thus, the etiopathogenesis of the lesion, which is still discussed, may have its origin in periodontal ligament cells and/or periosteum [1-19].

Clinically, peripheral ossifying fibroma presents as an exophytic nodule or tumor mass; erythematous or pinkish in color; pedunculated or sessile base; smooth surface, or under trauma, it can be ulcerated, presenting painful symptoms. It can reach variable dimensions. The lesion can be associated with periodontal diseases, poor oral hygiene, and the presence of dental calculus [1,2,4,5,7-17,19]. Among the histopathological characteristics, it can present in the stroma, foci of calcified material that are sometimes visible radiographically [2,5,7-18].

The treatment of choice is surgical excision, and local irritating factors should be eliminated prior to excision. The recurrence rate of the lesion is relatively high, around 20%, usually related to the persistence of local irritating factors and incomplete excision [1-3,5,7-14,16,18,19].

Purpose of the Study

The purpose of this article is to present a case of peripheral ossifying fibroma on the lingual surface of the mandibular incisors in a female patient who underwent surgical excision and free gingival graft. The clinical, radiographic, and histopathological features; incidence and frequency; etiopathogenesis; differential diagnosis; and treatment modalities were discussed.

Case Report

A black female patient, 48-years-old, came to the clinic complaining of a gingival lesion.

On intraoral clinical examination, the patient presented a pink pedunculated tumor mass, approximately 10 mm in diameter, located on the keratinized gingiva of the lingual surface between teeth 42 and 43, with two years of evolution. No sign of a local irritant factor (mechanical trauma) was found, except for periodontitis with the presence of dental calculus (Figure 1A). The radiographic examination showed no specific signs of the lesion, only the presence of bone loss due to periodontitis.

The patient was informed of the need for periodontal treatment prior to surgical removal of the lesion. The patient consented to the procedure. Periodontal treatment was performed, with subgingival scaling and oral hygiene orientation.

After 30 days of periodontal treatment, the lesion was surgically removed. Under local anesthesia, the lesion was incised at its pediculated base. Due to the presence of dental calculus, the region was again scraped and curetted, with intense bleeding. The region was washed abundantly. In view of the mucogingival defect generated, a free gingival graft was performed. The donor region consisted of the edentulous palatal mucosa of tooth 15 (Figure 1B and 1C). The donor region was sutured and surgical cement was inserted. The patient was given analgesic, anti-inflammatory and antibiotic drugs. The recurrence of periodontitis was observed due

to the presence of supragingival calculus. The patient was again oriented about the importance of oral hygiene and especially the possibility of recurrence of the lesion after surgical removal.

The material was fixed in 10% formalin and sent to the Surgical Pathology Laboratory of the Department of Stomatology of the School of Dentistry, University of São Paulo. The histopathological diagnosis was peripheral ossifying fibroma (Figure 2).

After 15 days, the patient was evaluated. No complaints and or complications were reported. The remaining surgical cement and sutures were removed from both the donor and recipient areas.

The case was followed up for 12 months with no signs of recurrence of the lesion. The gingival retraction was covered by a free gingival graft (Figure 1D). However, periodontitis recurred.



Figure 1: Lesion located on the keratinized gingiva of the lingual surface between teeth 42 and 43 (A). Edentulous palatal mucosa of tooth 15 as donor region (B). Free gingival graft performed (C). Gingival retraction covered by free gingival graft (D).

Discussion

The synonymy for peripheral ossifying fibroma included several other designations: peripheral cementifying fibroma, fibroblastic granuloma, peripheral fibroma with calcification, ossifying/calci-fying fibroid/fibrous epulid, calcifying granuloma, calcifying fibro-blastic granuloma [2,4,8,11,14,15,17].

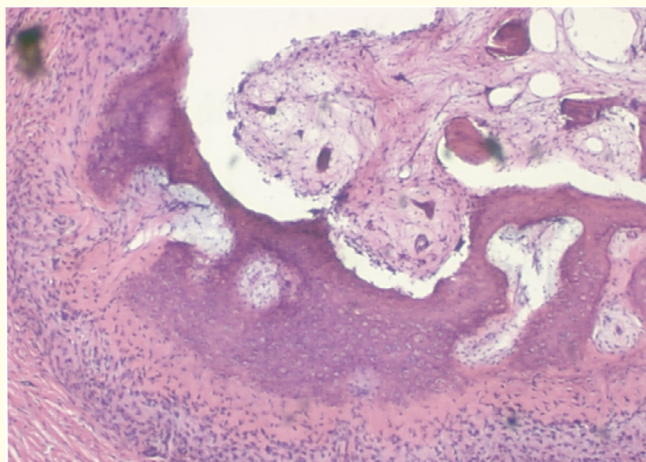


Figure 2: Histopathological aspects of the peripheral ossifying fibroma (HE; 25 X).

Peripheral ossifying fibroma has a peak incidence in the 2nd and 3rd decades of life, with a greater predilection for females. The anterior region of the maxilla is more involved [2-6,8,12,15-18].

The clinical characteristics vary between nodule or exophytic tumor mass; affecting almost exclusively the keratinized gingiva, frequently beginning in the interdental papilla; well delimited; varying in size from a few millimeters to a few centimeters; smooth surface or, under mechanical trauma, ulcerated, which can indicate painful symptoms; erythematous to pinkish color; pedunculated or sessile base; resistant, although slightly resilient to palpation [2-5,7-19]. Cortical bone destruction; tooth movement, migration, or mobility can occur caused by the lesion [3,10,12,14,16-18]. In some cases, depending on the affected dimension and locality, it can interfere with the usual functions of the patients, such as chewing, swallowing, and phonation, or even generate facial asymmetries and subsequently psychological disturbances [1-4,18]. The lesions may or may not [10,17] present radiopaque images as radiographic signs, resulting from foci of calcification [2,5,12,13,16,18].

The etiopathogenesis is still discussed. It has been postulated the origin from cells of the periodontal ligament, by the incidence on the gingiva. Local irritative factors are also very present, indicating the proliferative reactional lesion in the face of inflammatory

and infectious process [1-3,5,6,9]. The higher occurrence in females suggests that hormonal factors are important in the etiopathogenesis of the lesion [13].

The differential diagnosis is broad and includes: pyogenic granuloma; fibroma; peripheral giant cell lesion; inflammatory fibrous hyperplasia; peripheral odontogenic fibroma; giant cell fibroma [1,2,5-7,10,12,14-16]. In neonatal children, newborn cyst and eruption cyst can be considered [6,11].

The preconized treatment is surgical excision, by incision close to the periosteum and underlying bone, in order to avoid recurrence of the lesion [1,2,4-6,11-13,16,19]. Additionally, other procedures may become necessary. Other associated treatments may be necessary, depending on the case. The performance of free gingival or connective tissue grafts has been reported in the literature [15,17]. The surgical treatment plan should be outlined, valuing the aesthetic and/or functional periodontal conditions, avoiding the unwell conditions by craters and severe changes in gingival contour. In the present report, a free gingival graft was necessary to cover the gingival retraction caused by the lesion. Removal of local irritating factors has been reported [1,3-5,9,15-19]. Basic periodontal treatment prior to surgical excision, as presented by us, in addition to vigorous curettage in the operative procedure is recommended [12,15,19].

Follow-up is mandatory because of the high recurrence rate of the lesion, close to 20% [1,2,8,10,12,13,15,17,18].

Conclusion

Peripheral ossifying fibroma is a relatively frequent proliferative process in dental practice, usually affecting the gingiva. The lesion is easily treated by surgical excision, allowing the dental surgeon a simple approach. Care should be taken during excision to remove the base of the lesion, the periodontal ligament and adjacent periosteum, as well as local irritants. The recurrence rate is relatively high, also justifying follow-up. Periodontal plastic surgery techniques can be used for aesthetic and/or functional restoration by inducing the growth of new tissue at the site of surgical excision of peripheral ossifying fibroma.

Bibliography

1. Albagieh HN. Large peripheral ossifying fibroma interfering with the normal functions of the oral cavity: A rare case report presentation and discussion. *Int J Surg Case Rep.* 2021;84:106127.
2. Agarwal P, Chug A, Kumar S, Jain K. Palatal peripheral ossifying fibroma. *Int J Health Sci (Qassim).* 2019;13(4):63-66.
3. Freire AEN, Silva VSA, Pereira AAC, Ribeiro Jr NV, Carli ML, Sperandio FF, Hanemann JAC. Giant peripheral ossifying fibroma treated with piezosurgery and platelet-rich fibrina: A rare care report. *Clin Adv Periodontics.* 2019;9(1):15-19.
4. Lázare H, Peteiro A, Pérez Sayáns M, Gándara-Vila P, Carneiro J, García-García A, Antón I, Gándara-Rey JM, Suárez-Peñaranda JM. Clinicopathological features of peripheral ossifying fibroma in a series of 41 patients. *Br J Oral Maxillofac Surg.* 2019;57(10):1081-1085.
5. Okui T, Ibaragi S, Ono K, Hasegawa K, Sasaki A. Surgical resection of a giant peripheral ossifying fibroma in mouth floor managed with fiberoptic intubation. *Clin Case Rep.* 2020;9(1):180-184.
6. Tavares TS, Costa AAS, Freire-Maia FB, Souza LN, Zarzar PM, Martins-Júnior PA, Aguiar MCF, Mesquita RA, Caldeira PC. Unusual exophytic gingival lesion in a newborn treated with diode laser. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 2020;130(3):e74-e79.
7. Kenney JN, Kaugars GE, Abbey LM. Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma. *J Oral Maxillofac Surg.* 1989;47(4):378-82.
8. Baumgartner JC, Stanley HR, Salomone JL. Zebra hunt. *Peripheral ossifying fibroma.* *J Endod.* 1991;17(4):182-5.
9. Mesquita RA, Sousa SCOM, Araújo NS. Fibroma ossificante periférico e fibroma ossificante: estudo utilizando a técnica do AgNOR. *RPG Rev Pós Grad.* 1996; 3(2):161-7.
10. Abitbol TE, Santi E. Peripheral ossifying fibroma - literature update and clinical case. *Periodontal Clin Investig.* 1997;19(1):36-7.
11. Kohli K, Christian A, Howell R. Peripheral ossifying fibroma associated with a neonatal tooth: case report. *Pediatr Dent* 1998;20(7):428-9.
12. Moreira CA, Donato AC, Milner E, Mistro FZ, Kignel S. Fibroma ossificante periférico. *Rev Paul Odontol.* 1998;20(4):4-7.
13. Thierbach V, Quarcoo S, Orlian AI. Atypical peripheral ossifying fibroma. *N Y State Dent J.* 2000;66(8):26-8.
14. Wright JM. Peripheral odontogenic (ossifying) fibroma. *Tex Dent J.* 2000;117(11):62,69.
15. Buduneli E, Buduneli N, Ünal T. Long-term follow-up of peripheral ossifying fibroma: report of three cases. *Periodontal Clin Investig.* 2001;23(1):11-4.
16. Flaitz CM. Peripheral ossifying fibroma of the maxillary gingiva. *Am J Dent.* 2001;14(1):56.
17. Walters JD, Will JK, Hatfi eld RD, Cacchillo DA, Raabe DA. Excision and repair of the peripheral ossifying fibroma: a report of 3 cases. *J Periodontol.* 2001;72(7):939-44.
18. Poon C, Kwan P, Chao S. Giant peripheral ossifying fibroma of the maxilla: report of a case. *J Oral Maxillofac Surg.* 1995;53(6):695-8.
19. Pedron IG, Chuji ES, Magalhães JC de A, Imparato JCP, Adde CA. Peripheral Ossifying Fibroma - Proliferative Process of Periodontal Interest: Case Reports. *Rev Int Periodontia Clin.* 2004;2(4):5-9.

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