CASE REPORT

Peripheral Ossifying Fibroma: An Unusual Gingival Bulge a Rare Entity.

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Abstract

Introduction: General practitioners have misdiagnosed a number of rare entities by using the term "fibroma" to describe any soft tissue gingival lesion. In teenage female patients, gingival lesions are frequently observed clinically.

Case Report: The lesion's location is important since it influences the rarity of these lesions, both in terms of size and location. However, there is still disagreement regarding which condition should be diagnosed: peripheral odontogenic fibroma (POF) or peripheral ossifying fibroma. POF is also known as "calcifying fibroblastic granuloma," "calcifying or ossifying fibrous epulis," "peripheral fibroma with calcification," and "peripheral cementifying fibroma."

Conclusion: This case report discusses the treatment of a female adolescent patient with an unusual instance of POF on the labial side of her maxillary incisors. Five months were spent monitoring the patient following her surgical excision.

Keywords: Gingival Overgrowth, Peripheral ossifying fibroma (POF), Reactive benign lesion.

Introduction

Plaque, calculus, food impaction, erratic restorations, low-grade trauma, and iatrogenic factors continuously cause moderate discomfort to the gingiva. When gingival tissues are exposed to irritants then they are most commonly referred as Epulis[1]. This frequent localized overgrowth is thought to represent an undifferentiated hyperplastic inflammatory response rather than a tumor. These localized reactive hyperplastic lesions (LRHLs) fall into four categories: Peripheral ossifying fibroma, Peripheral giant cell granuloma (PGCG), Pyogenic granuloma (PG), and Focal fibrous hyperplasia (FFH)[2].

A POF is characterized by an area of surface ulceration which manifests as a painless, haemorrhagic, frequently lobulated mass of gingiva or alveolar mucosa[3]. Depending on the level of surface inflammation and edema, the size of the lesions can vary. Histopathologically, POF is identified by the presence of clumped submucosal proliferation of primitive oval and bipolar mesenchymal cells as well as sporadic bone, cementum-like, or dystrophic calcified areas[4,5]. Most often, a lesion starts in the interdental tissue, which is frequently connected to an inflammatory fibrous hyperplasia[6]. Here is a case report of a twenty-year-old female adolescent with POF highlighting the variation in clinical presentation and histopathological characteristics.

Case Presentation

A 20-year-old female who had a primary chief complaint of an unusual swelling in the anterior maxillary region with lip incompetency had come to the Department of Periodontics. (Figure 1) According to the history, there was a reoccurrence of soft tissue growth in anterior region of jaw for which she had underwent surgical excision one and a half a year back. Intraoral examination revealed a single pedunculated gingival growth has grown significantly over the last six months despite the absence of any clinical cause. Vitality tests on the teeth near the lesion yielded positive results.

Clinically, the lesion was a raised, oval-shaped mass that measured 2 cm x 1.5 cm, with a smooth, shiny surface devoid of bleeding or ulceration. As it originated from the labial gingiva in relation to the maxillary central incisors, the lesion had clearly defined margins. The lesion was firm, nodular, nontender, sessile, and noncompressible upon palpation, yet it was also strong and without any surface ulceration, purulence, or bleeding. Radiographically, there was no periapical radiolucency in relation to the maxillary incisors.

Electrosurgery was used to first dissect the lesion completely from the base. The excised specimen was then sent

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for histopathological evaluation to the department of pathology (Figure 2). The histopathological examination indicated an abundance cell of fibroblasts, thin collagen fibers, blood capillaries, and inflammatory cells inside a mass of connective tissue that was partially covered by Para keratinized Stratified Squamous Epithelium (Figure 3). Large lamellar bone trabeculae and sporadic basophilic cementum-like materials were visible in the stroma. The case has been identified as POF based on the clinical and histological findings. The healing of the gingiva and oral mucosa was normal, without any gingival defects after removal of the stimulus or the irritant. There was no sign of the lesion returning at the site of excision five months after follow-up (Figure 4).

Discussion

The periodontal ligament or connective tissue is the primary source where gingival fibromas develop. The first description of POF as alveolar exostosis was made by Shepherd in 1844, and later the term "POF" was coined by Eversol and Rovin in 1972. POF is a localized, slow-growing, reactive lesion emerging from pluripotent cells of the periodontal ligament[7]. Despite the nomenclature suggesting a neoplasm, a POF is regarded as a reactive lesion. Numerous terms, including fibrous epulis, calcifying fibroblastic granuloma, and peripheral fibroma with calcification, have been used to refer to it in the literature[8].

Histologically, it appears distinct from the neighbouring bone and consists of growing fibroblasts which are scattered with intermittent bone or calcified masses. There are two main categories of osseous fibromas: central and peripheral. The endosteum or periodontal ligament next to the root's apex serves as the nidus of origin for the central type, which over time causes the medullary space to enlarge and result in extra oral swelling. In contrast, the peripheral type develops in relation to the soft tissues in the tooth-bearing regions of the jaws[9].

The incisor cuspid area is often where the lesion is located in 50% of instances[10]. Lip incompetency is the result of the lesion in the current case, which is located in the area in between the maxillary central and lateral incisors. Clinically, the lesion presents as a nodular mass that is pink to red, occasionally ulcerated, and may be pedunculated or sessile[11]. In this particu-

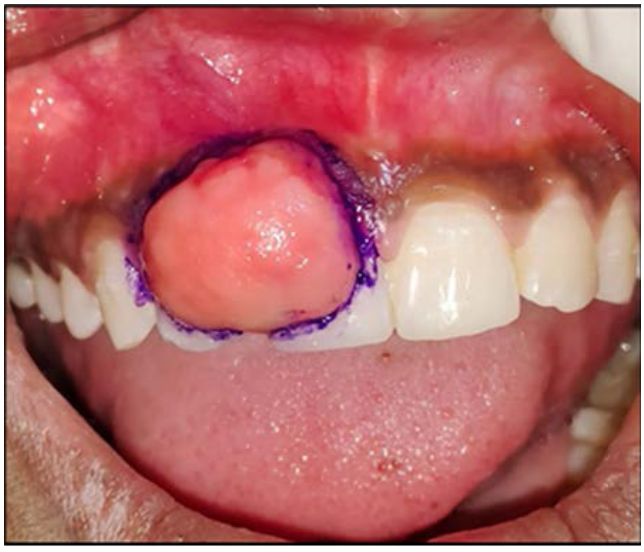

Fig.1: Soft tissue swelling irt anterior maxilla

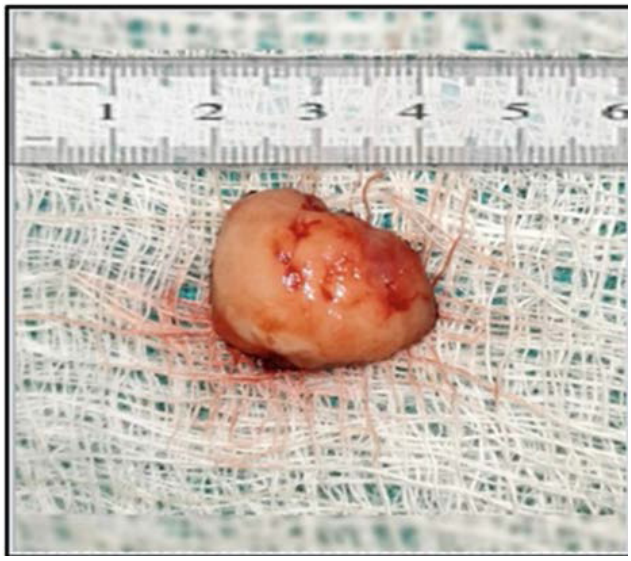

Fig.2: Gross specimen

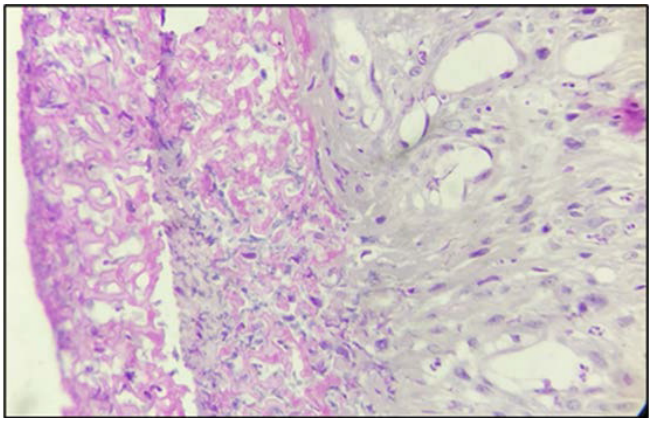

Fig.3: Numerous vascular spaces surrounded by endothelial cells

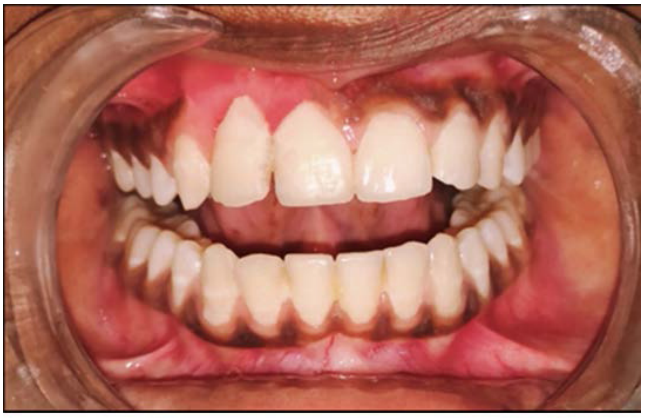

Fig.4: Post operative image after 5 months

lar case, the lesion is sessile, has a smooth surface, and is not infected.

The only bone changes seen on radiographs in POF are pressure-related cupping defects, tooth displacement occasionally, and scattered radiopaque calcification regions. However, a large lesion that has been present for a long time may show bone-destructive changes[12]. In terms of histopathology, POF is not encapsulated and exhibits a stratified squamous epithelial lining with sporadic calcified patches with a backdrop of highly cellular connective tissue[13]. In the present case, the lesion is sessile and surrounded by a thick periosteum. Therefore, it is excluded from peripheral odontogenic tumor, epulis/papilloma, and PG. Both pregnancy epulis and PGs have the potential to develop and change throughout time to become less vascular and more collagenous.

Depending on the alternatives available to the doctor the treatment procedure in these situations may involve the use of a scalpel, laser, or electrosurgery to successfully remove the lesion. In the present case, a complete surgical excision extending all way to the periosteum was done due to the high rate of POF recurrence. The rate of POF recurrence, according to Eversole LR et al., is 8% to 20%[14]. For a better prognosis, close postoperative follow-up is necessary.

Conclusion

A slow-growing lesion with restricted growth potential, known as a POF, is one that undergoes connective tissue metaplasia, which produces bone, or dystrophic calcification. When considering the recurrent nature of the pathology, the uniform clinical presentations that occur in both men and women, across a wide age range, and with a variety of histopathological features have increased the need to thoroughly review the differential diagnoses.

References

1. Ramu S, Rodrigues C. Reactive hyperplastic lesions of the gingiva: a retrospective study of 260 cases. World J Dent. 2012;3:126–130.
2. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinicopathological study of 741 cases. J Periodontol. 1980;51:655–661.
3. Gnepp D. Diagnostic Surgical Pathology of the Head and Neck. 2nd Edn. Saunders Elsevier. In: Elsevier, ed. 2nd ed.; 2009:211-214.
4. Buchner A, Hansen LS. The histomorphologic spectrum of peripheral ossifying fibroma. Oral Surgery, Oral Med Oral Pathol. 1987;63:452-461.
5. Feller L, Buskin A, Raubenheimer E. Cemento-ossifying fibroma: case report and review of the literature. J Int Acad Periodontol. 2004;6:131-135.
6. Poonacha KS, Shigli AL, Shirol D. Peripheral ossifying fibroma: A clinical report. Contemp Clin Dent. 2010;1:54-56
7. Kumar S, Ram S, Jorgensen M, Shuler C, Sedghizadeh P. Multicentric peripheral ossifying fibroma. J Oral Sci. 2006;48:239-243.
8. Cooke BE. The fibrous epulis and fibro epithelial polyp: their histogenesis and natural history. Br Dent J. 1952;93:305–309.
9. Bhaskar SN, Jacoway JR. Peripheral fibroma and peripheral fibroma with calcification: report of 376 cases. J Am Dent Assoc 1966;73:1312-1320.
10. Neville BW, Damm DD, Allen CM, Bouquot JE. Soft tissue tumours. In: Neville BW, Damm DD, Allen CM, Bouquot JE, editors. Oral and Maxillofacial Pathology. 2nd ed. New Delhi: Elsevier; 2005. p. 468-9.
11. Chandwani M, Fernandes G. Peripheral ossifying fibroma: review and case report. Biomed Res Clin Pract. 2018;3:1-4.
12. M Agarwal, A Sharma, S Joshi, M Kaushik Peripheral Ossifying Fibroma-A Clinical Case Report. J emerg technol innov res 2019;8:453-457.
13. Ghai A, Saleem M, Tomar N, Kaushik M, Wadhawan A, Singh S. Inflammatory Gingival Hyperplasia in a Young Female Patient-A Case Report. EC Dental Science. 2019;18:1685-1689.
14. Eversole LR, Leider AS, Nelson K. Ossifying fibroma: A clinicopathologic study of sixty-four cases. Oral Surg Oral Med Oral Pathol 1985;60:505-511.