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Peripheral Ossifying Fibroma - Case Report

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Abstract Gingival overgrowth is one of most frequently encountered lesion of oral cavity. Most of them are innocuous and arise due to localised irritation. They are termed broadly as "Epulis". Peripheral ossifying fibroma is one of them with considerable variation regarding its nomenclature and etiopathogenesis. This case report presented 27 years old male with gingival overgrowth in maxillary anterior region on palatal side since 5 months

Keywords: *Epulis, Peripheral ossifying fibroma, gingival overgrowth*

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1. Introduction

The gingiva is subjected to constant mild irritation from plaque, calculus, food impaction, irregular restorations, low-grade trauma, and iatrogenic factors. Often the gingival tissues react to these irritants by developing a type of growth which for years was called by the Greek term epulis. This common localized overgrowth is not considered to be a neoplasm but a nonspecific hyperplastic inflammatory reaction. These localized reactive hyperplastic lesions (LRHLs) can be classified as; peripheral ossifying fibroma (POF), peripheral giant cell granuloma (PGCG), pyogenic granuloma (PG) and focal fibrous hyperplasia (FFH). Except for the peripheral giant cell granuloma, whose features are remarkably consistent, the histologic classification of these hyperplastic gingival lesions is very confusing [1].

2. Case report

A healthy 27yrs old male patient reported with chief complain of lump at inner side of upper left front teeth since 5 months. (Figure 1) Patient was otherwise healthy. Clinical examination revealed a solitary, well-circumscribed, pedunculated, erythematous, firm swelling measuring approximately 1.5 cm x 1 cm located on the palatal mucosa of the left central incisor, lateral incisor and canine. The lesion appeared reddish pink & and non fluctuant. It was tender to firm pressure, but not to light palpation. The surface of the lesion was nonulcerated and the overlying mucosa appeared normal. The radiographic appearance was normal, with no signs of bone resorption and any findings pertaining to the exophytic bony lesion. Peripheral ossifying fibroma, pyogenic granuloma, fibrous hyperplasia, peripheral giant cell granuloma were considered as possible differential diagnosis.

After performing oral prophylaxis, growth was excised completely and area was thoroughly curetted to deepest possible tissue (Figure 2). After controlling bleeding, the area was sutured and covered with periodontal dressing. Excised tissue was sent immediately for histopathological examination.

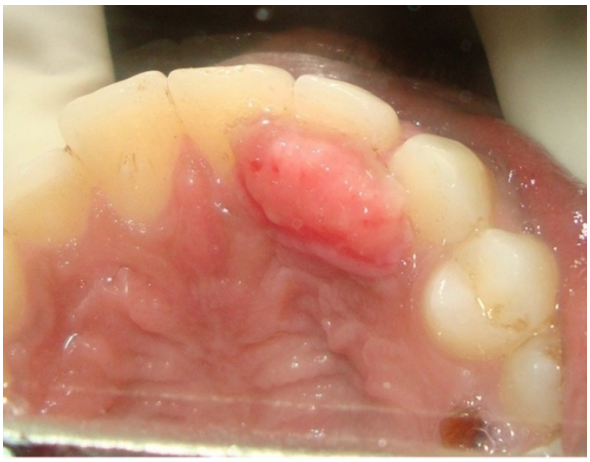

Figure 1. Localised gingival overgrowth in relation with palatal aspect of 21, 22 & 23

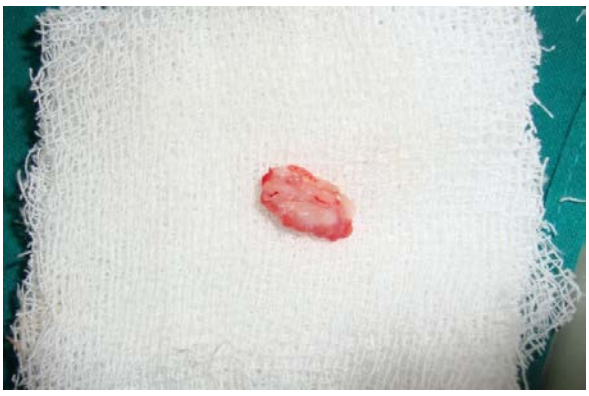

Figure 2. Excised gingival growth

The histopathological examination of the lesion using Haemotoxylin and eosin (HE) staining method at 10X magnification revealed a prominent area of highly cellular

fibrous connective tissue showing collagen fibres and proliferating plump fibroblasts along with focal areas of calcified tissue. Subepithelial connective tissue was infiltrated with chronic inflammatory cells. (Figure 3) Depending upon clinical and histopathological examination diagnosis of peripheral ossifying fibroma was confirmed. Follow up examinations of patient were carried out up to 1 year. At the one-year postsurgical follow-up the patient was asymptomatic, and there was no evidence of recurrence (Figure 4).

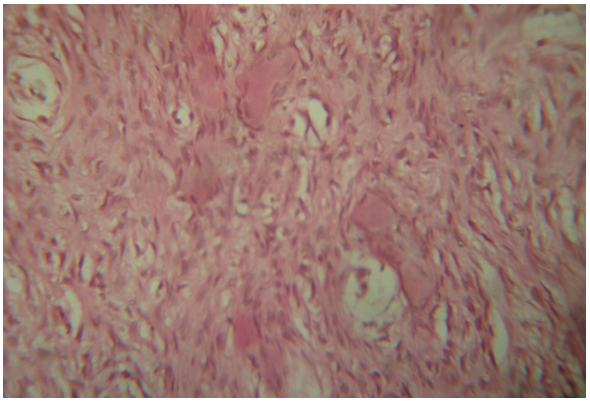

Figure 3. Histopathological section of the lesion showing highly cellular fibrous connective tissue and proliferating plump fibroblasts along with focal areas of calcified tissue. Subepithelial connective tissue was infiltrated with chronic inflammatory cells (HE stain, 10X magnification)

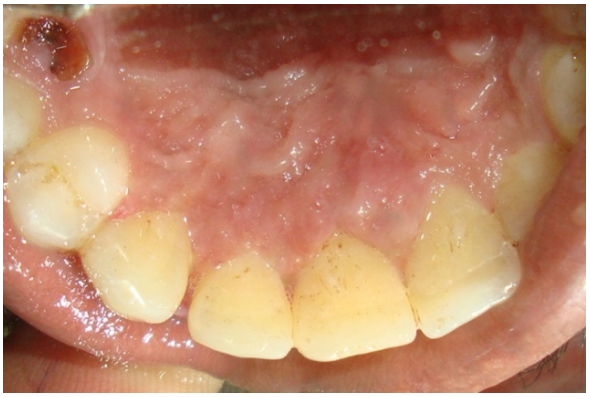

Figure 4. Post-operative view after 1 year

3. Discussion

A POF is considered to be reactive lesion despite the nomenclature that implies a neoplasm. Different terminologies have been used in the literature to describe it, like fibrous epulis, calcifying fibroblastic granuloma or peripheral fibroma with calcification [2,3,4].

Menzel first described the lesion ossifying fibroma in 1872 [5], but its terminology was given by Montgomery in 1927. [5] Peripheral ossifying fibroma occurs mostly in craniofacial bones and categorized into two types central and peripheral. The central type of ossifying fibroma arises from the endosteum or the periodontal ligament (PDL) adjacent to the root apex and expands from the medullary cavity of the bone, and the peripheral type occurs on the soft tissues overlying the alveolar process [6].

The etiopathogenesis of peripheral ossifying fibroma is uncertain. Multiple factors have been suggested as etiological factors. It was believed that lesion arise from periodontal membrane due to exclusive occurrence of peripheral ossifying fibroma in the interdental papilla in proximity to periodontal ligament and the presence of oxytalan fibres within the mineralized matrix of some lesions. [7,8] Another factor is chronic irritation from local irritants such as; dental plaque, calculus, microorganisms, masticatory forces, ill-fitting dentures and poor quality restorations leads to excessive proliferation of mature fibrous connective tissue and resultant initiation of formation of bone or dystrophic calcification. It has been suggested that the lesion may be caused by fibrosis of the granulation tissue. [7] In addition, hormonal influences is considered as an etiological factor due to higher prevalence in females and a peak occurrence in the second decade of life of this lesion. [9] Rare manifestation of multicentric lesion point towards a possible role of genetics in the pathogenesis of this disease [8].

It accounts for 3.1% of all oral tumors and 9.6% of gingival lesion. [9] It may occur at any range, but exhibits a peak incidence between the second and third decades [10]. Both genders are affected but show female predilection. [9] With respect to race, there is a predominance in Whites (71%) compared to Blacks (36%). [11] Clinically appear as red to pink, solitary nodular mass usually arising from interdental papilla that is either pedunculated or sessile. The surface is frequently ulcerated. Lesion is found more frequently in maxillary (60%) and incisor cuspid region (50%). [12] It is usually less than 1.5cm in diameter but, lesion up to 9cm diameter has been reported [11].

Radiographic lesion shows radiopacity. Initial lesions do not show any detectable amount of mineralization but mature lesion show flecks and patches of radiopacity in the centre of lesion. Underlying bone involvement is rarely evident on a periapical radiograph [12,13].

Histopathologically, the lesion shows stratified squamous epithelium covering an exceedingly cellular mass of connective tissue made up of plump fibroblasts, fibrocytes, fibrillar stroma and areas of mineralization with multinucleated giant cells near them in some cases. The mineralization may consist of bone, cementum-like material or dystrophic calcifications. The dystrophic calcifications are usually seen in early, ulcerated lesions, whereas the older, mature, non-ulcerated lesions show well-formed bone and cementum-like material [12].

Peripheral ossifying fibroma has to be differentiated from traumatic fibroma (fibrous hyperplasia), peripheral giant cell granuloma, pyogenic granuloma and peripheral odontogenic fibroma. Traumatic fibroma occurs on buccal mucosa along the bite line. Peripheral giant cell granuloma has clinical features similar to POF however POF lacks the purple or blue discoloration commonly associated with peripheral giant cell granuloma and radiographically shows flecks of calcification [7,12]. It is possible to histologically differentiate PGCG and peripheral odontogenic fibroma from POF as PGCG contains giant cells, whereas peripheral odontogenic fibroma contains odontogenic epithelium and dysplastic dentin; all the features are not seen in POF [12].

Pyogenic granuloma presents as soft, friable nodule, small in size that bleeds with tendency to haemorrhage and occasionally or do not show calcifications but tooth displacement and resorption of alveolar bone are not observed. [12] However, according to other opinion

peripheral ossifying fibroma falls within the spectrum of maturation pathogenesis of pyogenic granuloma. The initial lesion starts as pyogenic granuloma and maturation lead to development of POF. It is observed fact that longstanding PG may undergo organization/ healing, which is evident histologically with features of decreased vascularity, decreased inflammation and focal ossification [14].

Peripheral odontogenic fibroma (WHO type) is an uncommon neoplasm that is believed to arise from odontogenic epithelial rests in periodontal ligament or attached gingiva itself. Presence of hypocellular stroma containing inactive odontogenic epithelium and dysplastic dentin or cementum like material is found in peripheral odontogenic fibroma [9].

Local surgical excision including the involved periodontal ligament and periosteum is the preferred treatment. Due to the high rate of recurrence (8% to 20%), long term postoperative monitoring is required in all cases of POF. [4,5] Incomplete removal of the lesion, failure to eliminate local irritants and difficulty in accessing the lesion during surgical manipulation result in higher recurrence rate [15].

4. Conclusion

Peripheral ossifying fibroma is slow growing; reactive lesions which usually show limited growth potential. It should be carefully differentiated from other reactive gingival lesion. Treatment includes surgical excision including underlying periosteum and periodontal ligament with close postoperative re-evaluation due to high recurrence potential.

References

[1] Kfir, Y., Büchner, A. and Hansen, L.S. “Reactive lesions of the gingiva: A clinicopathological study of 741 cases.” J Periodontol. 51(11). 655-661. Nov 1980.

[2] Cooke, B.E.D. “The fibrous epulis and the fibroepithelial polyp: their histogenesis and natural history.” *Br Dent J*. 93. 305-309. 1952.

[3] Lee, K.W. “The fibrous epulis and related lesions. Granuloma pyogenicum, 'pregnancy tumour,' flbroepithelial polyp and calcifying fibroblastic granuloma. A clinic-pathological study.” *Periodontics.* 6. 277-292. 1968.

[4] Bhaskar, S,N, and Jacoway, J.R. “Peripheral fibroma and peripheral fibroma with calcification: report of 376 cases.” *J Am Dent Assoc* 73 (12). 1312-1320. Dec 1966.

[5] Sujatha, G., Sivakumar, G., Muruganandhan, J., Selvakumar, J. and Ramasamy, M. “Peripheral ossifying fibroma-report of a case.” *Indian Journal of Multidisciplinary Dentistry* 2. 415-418. Jan 2012.

[6] Miller, C.S., Henry, R.G. and Damm, D.D. “Proliferative mass found in the gingival.” *J Am Dent Assoc.* 121 (4). 559-560. Oct 1990.

[7] Eversole, L.R. and Rovin, S. “Reactive lesions of the gingival.” *J oral pathology*. 1(1). 30-38. 1972.

[8] Kumar, S.K., Ram, S., Jorgensen, M.G., Shuler, C.F. and Sedghizadeh, P.P. “Multicentric peripheral ossifying fibroma.” *J Oral Sci.* 48(4). 239-243. Dec 2006.

[9] Kenney, J.N,. Kaugars, G.E. and Abbey, L.M. “Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma.” *J Oral Maxillofac Surg* 47(4). 378-382. 1989.

[10] Bodner, L. and Dayan. D. Growth potential of peripheral ossifying fibroma. *J Clin Periodontol*. 14(9). 551-554. Oct 1987.

[11] Cuisia, Z.E.S. and Brannon, R.B. “Peripheral ossifying fibroma – a clinical evaluation of 134 pediatric cases.” *Pediatr Dent*. 23(3). 245-248. May-June 2001.

[12] Neville, B.W., Damm, D.D., Allen, C.M. and Bouquot, J.E. Oral and Maxillofacial Pathology, 2nd edn: W.B. Saunders, Philadelphia.

[13] Keluskar, V., Byakodi, R. and Shah, N. “Peripheral ossifying fibroma.” *Journal of Indian Association of Oral Medicine & Radiology*. 20. 54-56. 2008.

[14] Shiva Prasad, B.M., Reddy, S.B., Patil, S.R., Kalburgi N.B. and Puranik, R.S. “Peripheral Ossifying Fibroma and Pyogenic Granuloma- Are They Interrelated?” *NY St Dent J*. 53. 39-41. Mar 2008.

[15] Shetty, D.C., Urs, A.B., Ahuja, P., Sahu, A., Manchanda, A. and Sirohi, Y. “Mineralized components and their interpretation in the histogenesis of peripheral ossifying fibroma.” *Indian J Dent Res* 22 (1). 56-61. Jan-Feb 2011.