

Fibroepithelial hyperplasia

Shivani Sachdeva*, Harish Saluja*, Amit Mani**, Rahul Patil**, Shubhangi Mani**, Syeda Nikhat Mohammadi***

Abstract

Background: Fibroepithelial hyperplasia/fibroma is reactive or inflammatory condition which presents variety of lesions named according to their clinical presentation. ¹ They may be either generalized or localized and are found in 1.2% of adults. ² They are formed as a result of irritation and are not true neoplasm, rather considered as mere fibrous overgrowths.

Case report: A case of 38 year-old male patient with gingival overgrowth in posterior maxilla right side since one year. The lesion was excised using diode laser and uneventful healing noticed after a week. In this case report, the lesion was found in 38-year-old male patient, which is rare and uncommon feature of fibroepithelial hyperplasia to have ossifications in accordance to earlier case reports.

Discussion: The possible histopathologic variants of fibroepithelial hyperplasia includes pyogenic granuloma, peripheral giant cell granuloma and irritational fibroma. ¹ Laser therapy is currently being undertaken and would soon become the norm, as it has many advantages like hemostasis, more patient comfort and better healing. Recurrence rates are uncommon and are mostly caused by repetitive trauma at the same site.

Keywords: diode lasers, fibroepithelial hyperplasia, fibroma

Background

Fibroepithelial hyperplasia is reactive-progressive proliferation of oral mucosa in response to injury or local irritation. These lesions could cause an esthetic problem that interferes with mastication, speech and also impedes effective plaque control. The causative etiology associated with these lesions includes plaque and calculus, overhanging restorations, foreign bodies, chronic biting and ill-fitting dentures.

Oral mucosa is constantly subjected to external and internal stimuli and therefore, manifests a spectrum of disease that range from developmental, reactive, and inflammatory to neoplastic¹. Reactive lesions may arise anywhere in the oral cavity but more often is seen on gingiva, tongue and lip.² Reactive lesions are clinically and histologically non neoplastic nodular swellings that develop in response to chronic and recurrent tissue injury which stimulates an exuberant or excessive tissue response³.

They may present as pyogenic granuloma, fibrous epulis, peripheral giant cell granuloma, fibro-epithelial polyp, peripheral ossifying fibroma, giant cell fibroma, pregnancy epulis; and com-

monly manifest in the gingiva.⁴ Clinically, these reactive lesions often present diagnostic challenges because they mimic various groups of pathologic processes. They are clinically similar but possess distinct histopathological features. They may be termed 'epulides' when the connective tissue proliferation which occurs is confined to the gingival.^{5,6}

Case Report

Clinical presentation

A case of 38 year-old male reported to the outpatient department of periodontology with history of long standing growth that increased gradually during the course of one year. The pedunculated gingival overgrowth on right side maxillary posteriors was seen with size 2 X 2 X 1 cm which was fiery red in colour. On palpation, the gingiva was non-tender, firm and leathery in consistency and non-reducible in size. Bleeding on probing was present (*figure 1*).

Blood investigations were done followed by full mouth disinfection. Patient was recalled after 1 week after exuberant scaling and root planing. Profound local anaesthesia was given after which the excision was done at 810 nm wavelength with an average of 4W and 0.4mm diameter tip. The growth was removed with diode laser from the base of peduncle along with little healthy margin which was also excised. The irradiation mode was continuous wave. Precautionary measures included wearing of protective glasses and high vacuum suction. A slight char tissue was seen

*Associate Professor **Professor, *** Assistant Professor

Correspondence Address:

Shivani Sachdeva
Department of Periodontics
Pravara Rural Dental College and Hospital
Email address: dr.shivani19@gmail.com, phone no.- 09730548805

at base of tissue. This char tissue is bioprotective plug that will prevent the bleeding. The borders were rolled out. There was uneventful healing after 15days (*figure 2*).



Figure 1: Preoperative mirror image of lesion around tooth #16



Figure 2: Postoperative Mirror image of Postoperative healing after 15 days

The excised lesion was preserved in 10% formalin and was sent to the histopathological department for sectioning and reporting.

Histopathological presentation

H&E stained section shows orthokeratinized stratified squamous epithelium with thin and slender rete pegs. Underlying connective tissue shows numerous mature collagen fibers and fibroblasts. Numerous irregular basophilic calcified masses are noted along with hyalinized connective tissue stroma. There is a presence of diffusely arranged chronic inflammatory cell infiltrate scattered throughout stroma. The overall clinical picture was suggestive of **fibroepithelial hyperplasia with ossifications** (*figure 3*).

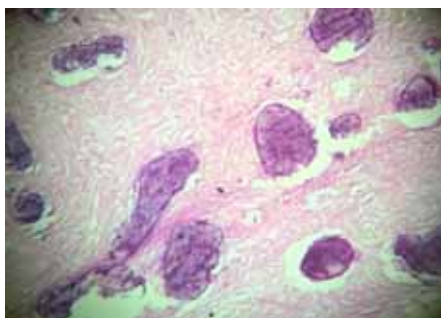
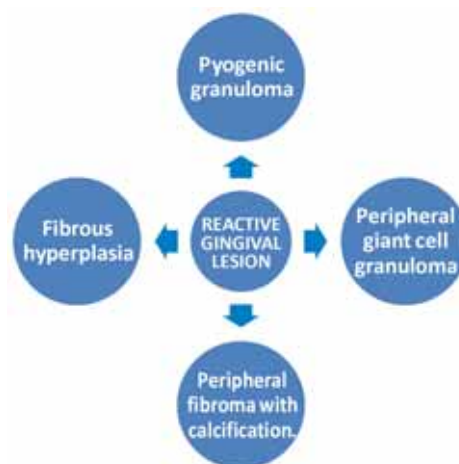


Figure 3: Histopathological image under 10X

Discussion

The term *epulis* was first employed by **Galen**⁵ to designate a tumor on the gums. The epulis term as used by him applied generally to any kind of abnormal gingival growth. In more recent times its use has been restricted to certain types of growth found in region of the oral cavity, although some writers still use the word in its more general meaning. Reactive lesions of the gingiva have been classified on the basis of their histology. **Kfir et al**⁷ have specifically classified reactive gingival lesions into:



A report of more than 30,000 oral biopsies submitted for diagnosis observed that nearly 13% were taken from the gingiva. Almost all lesions in the oral cavity that are called fibromas are not true neoplasms, but merely fibrous overgrowths caused by chronic irritation. Many authors therefore, prefer the term fibroepithelial polyp or fibrous hyperplasia for these type of lesions.^{8, 9}

Daley. et al⁵ suggested that the vascular component of pyogenic granuloma is gradually replaced by fibrous tissue with time and hence, diagnosed as a fibrous hyperplasia. **Natheer Al-Rawi**¹⁰ noticed that fibrous hyperplasia on the gingiva not only have the same female gender preponderance but also occurs in the same age group as that of gingival pyogenic granuloma.

In this case, apart from the gender similarity, the difference was seen in the age group as mentioned in the above studies. Apart from reactive tissue response of irritants, some authors have reported fibrous gingival growth caused due to drugs. The term fibro-epithelial hyperplasia should not be confused with focal epithelial hyperplasia, a viral infection (HPV virus) wherein the alterations occur only in the epithelium and not in the connective tissue of the oral mucosa.^{11,12}

Lasers treatment have been shown to be superior over conventional mechanical approaches because of its ability to easy ablate, less contamination and better hemostasis as well as less surgical and postoperative pain in soft tissue management. The advantages of laser application are relatively bloodless surgery, minimal swelling, scarring and coagulation, no need for suturing, reduction in surgical time and less discomfort and postoperatively pain.¹³ Also the patient was acquiescent during and

after laser therapy. During the operation while performing the incision some fumes were released from the vaporization of epithelium with a burning smell, which can provoke stress an hurt patient so it's necessary to use powerful air vacuator and to offer a block by temporary dam.¹⁴

In this case report, the lesion was found in 38-year-old male patient, which is rare and uncommon feature of fibroepithelial hyperplasia to have ossifications in accordance to earlier case reports.

Conclusion

The myriad of histological entities that we observe of reactive hyperplasia may be due to connective tissue response to varied intensities of gingival irritation. This response may be influenced by the serum levels of certain endocrine hormones. In addition to the physical characteristics of the lesion, the patient's demographics, presence of associated symptoms, related systemic disorders and location and growth patterns of the lesion all give clues to adequately diagnose and treat their typical histopathologic architecture. A biopsy will ensure a better and a more ideal treatment plan for the patient and prevent recurrence of these lesions. Treatment modalities commonly practised include scalpel surgery, cryotherapy, cauterization. Laser therapy is currently being undertaken and would soon become the norm, as it has many advantages like hemostasis, more patient comfort and better healing.

References

1. Suryaprassanna J., et al. "Fibroepithelial Hyperplasia: Rare, self-limiting condition – Two case reports". *Journal of Advanced Oral Research* 2.3 (2011): 63-69.
2. Mani AM., et al. "Series of Gingival Enlargement: Case Reports". *Pravara Medical Review* 6 (2014): 23-28.
3. Ramzi Cotran, Vinay Kumar, Tucker Collins. *Robbins Pathologic Basis of Disease*, 6th Edition. W.B. Saunders. 1999.
4. Shafer, Hine, Levy. *Benign and malignant tumors of oral cavity*. In: R. Rajendran, Shivapathasundaram (ed) Shafer's Textbook of Oral Pathology. 5ed. New Delhi, Elsevier. 2007:178-180.
5. Daley TD, Wysocki GP, Wysocki PD, Wysocki DM. The major epulides: Clinico pathological correlations. *J Can Dent Assoc* 1990; 56: 627-30.
6. Bert .G Anderson. Epulis a series of cases. *Arch Surg.* 1939; 38:1030-1035.
7. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinico-pathological study of 741 cases. *J Periodontol* 1980; 51: 655-61.
8. Stablien MJ, Silverglade LB. Comparative analysis of biopsy specimens from gingival and alveolar mucosa. *J. Periodontol* 1985; 56: 671-6.
9. Shamim T, Varghese VI, Shameena PM, Sudha S. A retrospective analysis of gingival biopsied lesions in South Indian population: 2001-2006. *Med Oral Patol Oral Cir Bucal* 2008; 13: 414-8.
10. Natheer. H .Rawi. Localized reactive hyperplastic lesions of the gingiva: a clinicopathological study of 636 lesions in Iraq. *Internet Journal of Dental Science* 2009; 7:1-4.
11. Madhusudan.A.S., Santosh Gupta, Sowmya.G.V. Focal Fibrous Hyperplasia: Report of two Cases. *Int J Dental clinics* 2011; 3:111-112.
12. MathurLK, BhalodiP, ManoharB, BhatiaA, RaiN, MathurA. Focal fibrous hyperplasia: A Case Report. *Int J Dent Clin* 2010; 2:56-7.
13. Kanhaiya Lal, J. Parthiban, Banu Sargunar, C.A. Prakash, B. Anandh. Usefulness of laser in oral and maxillo-facial surgery. *Biomedical and Pharmacology Journal*; 2015; 8-3439
14. Suter VG, Altermat HJ, Sendi P, Mettraux G, Bornstin MM. CO2 an diode laser for excisional biopsies of oral oral mucosal lesions. *Schweis Monatsshr Zahnmed.* 2010(8):664-71

