

Conservative surgical approach and aesthetic management of a focal gingival hyperplastic lesion

Anand Mohan, Lokesh Kumar, Priyanka K. Cholan, Niroshini Rajaram
SRM Dental College, SRM University, India

Abstract

Focal reactive hyperplastic lesions of the gingiva are quite common soft tissue enlargements of the oral cavity. Presence of local factors, tissue irritation and endocrinal discrepancies contribute to its etiology. The fact that these lesions are caused by diverse pathological conditions and its histo-pathological resemblances poses a great diagnostic challenge. Due to the site predilection of these lesions to the maxillary anterior region, this article presents a case report of focal gingival hyperplastic lesion in the anterior maxillary region and its conservative management leading to pleasing results and soft tissue esthetics.

Introduction

Localized overgrowth on gingiva or *Epulis*¹ is significantly prevalent and a matter of great clinical and aesthetic concern. A myriad of factors predisposes such benign tumor like overgrowths on gingiva and hence poses a challenge in diagnosis and also in management. Most of these focal hyperplastic gingival lesions presents a similar clinical picture and can be differentially diagnosed based only on their histopathological entities. Presence of chronic, local irritating factors such as plaque^{2,3} or caries,³ tissue injury and fluctuating serum levels of certain endocrine hormones¹ plays a role in its etiology. Most of these reactive focal hyperplastic gingival lesions has a strong predilection for the maxillary anterior region.⁴ Hence, managing such lesions with aesthetically pleasing results carries utmost significance.

Case Report

A 40-year old female patient presented with a focal gingival hyperplastic lesion in the maxillary incisor region in relation to 11, 12 (Figure 1). The lesion measured 10x10 mm, with a shiny surface texture, lobulated, painless and it was slow to develop over a period of seven months,

with bleeding while brushing. The oral hygiene status of the patient was poor and was diagnosed to have generalized chronic periodontitis based on the guidelines of American Academy of Periodontology (AAP) Classification of Periodontal Diseases in 1999. There was a probing depth of 9 mm in relation to 11, 12 region with copious bleeding on gentle probing. Intra oral peri-apical radiograph revealed generalized horizontal bone loss and the level of the crestal bone was at the middle third of the root, especially in relation to 11 and 12. Patient was free from any systemic illness, nor was not under any medication. Patient was reportedly in an active reproductive cycle. The etiology of the lesion in this case could be attributed to the poor oral hygiene and probable fluctuations in female hormones in the patient.

Management

Non-surgical

Patient was educated on her oral hygiene status, and a thorough supragingival scaling was done, followed by a full mouth subgingival root surface debridement. Patient was prescribed 0.2% chlorhexidine mouthwash twice daily and was motivated to follow a good plaque control regimen. Patient was reviewed after 4 weeks, the lesion showed marked improvement in surface characteristics and there was a reduction in the size of the lesion and associated with clinically marked reduction in the probing depth to 6 mm. Once again subgingival root surface debridement done in relation to 11, 12 region and patient was advised to maintain the plaque control measures. Patient was subsequently evaluated again after one month and probing depth further reduced to 5 mm (Figure 2).

Surgical

Surgical intervention was planned, to excise the remaining hyperplastic tissue. Since, the patient had a diastema between 11 and 12, a papilla preservation flap was planned, to preserve the inter-dental papilla and also to prevent the apical migration of marginal gingival in relation to 11, 12. Under 2% lignocaine with 1:80,000 adrenaline infiltration, open access was gained, for thorough root surface debridement, and the hyperplastic soft tissue was excised including the 2 mm of adjacent soft tissue and was sent for histopathological examination (Figures 3-6).

Discussion

The histological picture of many of the focal gingival hyperplastic lesion overlaps substan-

Correspondence: Anand Mohan, A1, Shanthi Avenue 17, Lakeview road, West Mambalam, Chennai - 600033, India.
Mobile: +91.9790908533.
E-mail: anand.dec8@yahoo.com

Key words: focal gingival hyperplastic lesions, pyogenic granuloma, maxillary anterior region, conservative approach, surgical excision.

Received for publication: 24 June 2014.
Revision received: 13 August 2014.
Accepted for publication: 24 August 2014.

This work is licensed under a Creative Commons Attribution NonCommercial 3.0 License (CC BY-NC 3.0).

©Copyright A. Mohan et al., 2014
Licensee PAGEPress, Italy
Clinics and Practice 2014; 4:649
doi:10.4081/cp.2014.679

tially,⁵ hence there is a significant need to properly differentially diagnose each of those lesions. A wide search of scientific literature, implies this case can be differentially diagnosed with five main types of reactive focal hyperplastic gingival lesions including Peripheral giant cell granuloma, peripheral ossifying fibroma, pyogenic granuloma, hemangioma and focal fibrous hyperplasia.⁶ Histopathological examination of the lesion in this case report revealed a mass of connective tissue partly covered by stratified squamous epithelium. The connective tissue was comprised of collagen fibers which are densely arranged in the most of the areas, while they are loosely packed in some areas with mild to moderate chronic inflammatory cell infiltrate. Also areas with increased vascularity was evidenced. Hence from the above histological findings the lesion was interpreted to be a Fibro-epithelial mass with increased vascularity and inflammatory cell infiltrate suggestive of pyogenic granuloma. Correlating the patient's clinical features and histological features of the lesions, the lesion resembled more of a pyogenic granuloma and the other lesions were ruled out.

As peripheral giant cell granuloma, histologically has numerous giant cells in the connective tissue stroma,⁷ hence it was not considered. Similarly, a peripheral ossifying fibroma has minimal vascular component⁸ and a focal fibrous hyperplasia is avascular⁹ unlike the lesion in our present case report. In addition hemangioma, histologically has endothelial cell proliferation and without acute inflammatory cell infiltrate,¹⁰ hence the diagnosis of the lesion fell more in favor of a pyogenic granuloma.

Traditional management of focal gingival hyperplastic lesion involves an excision and



Figure 1. A) and B) Pre-operative lesion illustrating bleeding on probing.



Figure 5. Immediate post-operative picture.



Figure 2. A) One month and B) two months following root surface debridement.

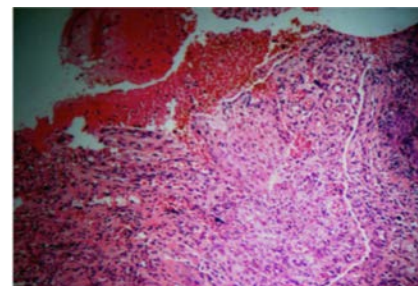


Figure 6. Histopathological examination.



Figure 3. A) and B) Papilla preservation flap raised one month post-operatively.

biopsy, but it carries the risk of post surgical soft tissue deformities in the form of receding gingival margin and also decrease in the width of attached gingiva, hence we followed a much conservative approach of reducing the size and extent of the lesion, before proceeding with any surgery to minimize post surgical deficit. Adhering to a protocol involving initial removal of local factors and all other irritants followed by surgical removal aided in minimal soft tissue deformities in this case, hence eliminating the need of any periodontal plastic procedures in the future.

The present case was followed up for a period of 3 years and no recurrence was observed.

Conclusions

This case report highlights that how a focal reactive gingival hyperplastic lesion in the anterior region was conservatively managed, preserving good soft tissue aesthetics. Though in this case, the histological findings were suggestive of a pyogenic granuloma, we believe a staged conservative approach like this worked in our favor and aided optimal regression of the lesion with excellent soft tissue esthetics.



Figure 4. A) One and B) three-year follow-ups.

References

1. Al-Rawi N. Localized reactive hyperplastic lesions of the gingiva: a clinico-pathological study of 636 lesions from Iraq. *Internet J Dental Sci* 2008;7:1.
2. Rossmann JA. Reactive lesions of the gingiva: diagnosis and treatment options. *Open Pathol J* 2011;5:23-32.
3. Ramu S, Rodrigues C. Reactive hyperplastic lesions of gingiva: a retrospective study of 260 cases. *World J Dent* 2012;3:126-30.
4. Cooke BED. The fibrous epulis and the fibro epithelial polyp: their histogenesis and natural history. *Br Dent J* 1952;93:305-9.
5. Effiom OA, Adeyemo WL, Soyele OO. Focal reactive lesions of the gingiva: an analysis of 314 cases at a tertiary health institution in Nigeria. *Niger Med J* 2011;52:35-4.
6. Neville BW. *Oral and maxillofacial pathology*. China: Saunders; 2009. pp 507-9; 517-23.
7. Tandon PN, Gupta SK, Gupta DS, et al. Peripheral giant cell granuloma. *Contemp Clin Dent* 2012;1:S118-21.
8. Mohiuddin K, Priya NS, Ravindra S, Murthy S. Peripheral ossifying fibroma. *J Indian Soc Periodontol* 2013;17:507-9.
9. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinico-pathological study of 741 cases. *J Periodontol* 1980; 51:655-61.
10. Gomes SR, Shakir QJ, Thaker PV, Tavadia JK. Pyogenic granuloma of the gingival: a misnomer? – A case report and review of literature. *J Indian Soc Periodontol* 2013; 17:514-9.