

Inflammatory Hyperplasia Management: A Case Report

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Abstract: Gingival enlargement, the currently accepted terminology for an increase in the size of the gingiva, is a common feature of gingival disease. Local and systemic factors influence the gingival conditions of the patient. These factors results in a spectrum of diseases that can be developmental, reactive and inflammatory to eoplastic. In this article, the history, etiology, clinical and histopathological features, treatment strategies and preventive protocol of inflammatory hyperplasia are discussed.

Keywords: Gingival enlargement, gingival hyperplasia, inflammatory hyperplasia

I. Introduction

The gingival tissues in the healthy mouth almost completely fill the interproximal spaces between teeth, beginning near the contact area and extending apically and laterally in a smooth curve. However, there is frequently an increase in the size of the gingiva so that soft tissue overfills the interproximal spaces, balloons out over the teeth and protrudes into the oral cavity. The enlargement of the gingiva may be localized to one papilla or may involve several or all of the gingival papillae throughout the mouth. Gingival enlargements are quite common and may be either inflammatory, non inflammatory or a combination of both¹. Gingival enlargement a common feature of gingival disease which can be caused by gingival inflammation, fibrous overgrowth, or a combination of the two². It is a multifactorial condition that develops as interactions between the host and the environment or in response to various stimuli. It may be plaque-induced, associated with systemic hormonal disturbances or occur as a manifestation associated with several blood dyscrasias, such as leukemia, thrombocytopenia or thrombocytopathy³. These enlargements may lead to functional disturbances like difficulty in mastication, altered speech, aesthetic and psychological problems.⁴ Classification of gingival enlargement is based on the degree of overgrowth as: Grade 0: No signs of gingival enlargement; Grade I: Enlargement confined to interdental papilla; Grade II: Enlargement involving interdental papilla and the marginal gingiva; and Grade III: Enlargement covering three-quarters or more of the crown⁵. The most common form of enlargement is inflammatory hyperplasia which is due to plaque induced inflammation of the gingival tissues. It can be localized or generalized, or can be exaggerated by hormonal effects, as seen in puberty or pregnancy, or may be complicated by certain systemic medications⁶.

Case report

A male patient aged 33 years reported with a chief complaint of swelling in the right front region of the gums. The lesion was nodular, circumscribed polypoid lesion measuring about 1.5 cm × 1.2 cm, pinkish to reddish in color, which bled easily, and was painless. This lesion involved the marginal and interdental gingiva on the facial surface of the mandibular right lateral incisor. Local factors plaque and calculus were present.[Fig 1]



Fig 1: Pre-operative photograph

Oral hygiene instructions were given and scaling and polishing were done on the first visit. Then, the patient was recalled for surgical excision of the lesion. After excision, residual calculus was removed and root planing was performed [Fig 2 & 3]. The excised lesion [Fig 3] was sent to the Department of Oral Pathology for histopathological examination. The patient was motivated to maintain oral hygiene and was asked to rinse her mouth with 0.2% chlorhexidene mouthwash twice daily for 1 week. The patient was kept under observation through recall checkups.



Fig 2: Post-operative photograph



Fig 3: Photograph after suture



Fig 4: Excised lesion

Microscopic examination revealed hyper-parakeratinized stratified squamous epithelium with ulceration and acanthosis of the stratum spinosum. The underlying dense fibrous connective tissue stroma showed severe chronic inflammatory cell infiltrate consisting of lymphocytes and plasma cells and a moderate number of endothelial-lined blood vessels suggestive of chronic inflammatory fibrous hyperplasia [Fig 5].

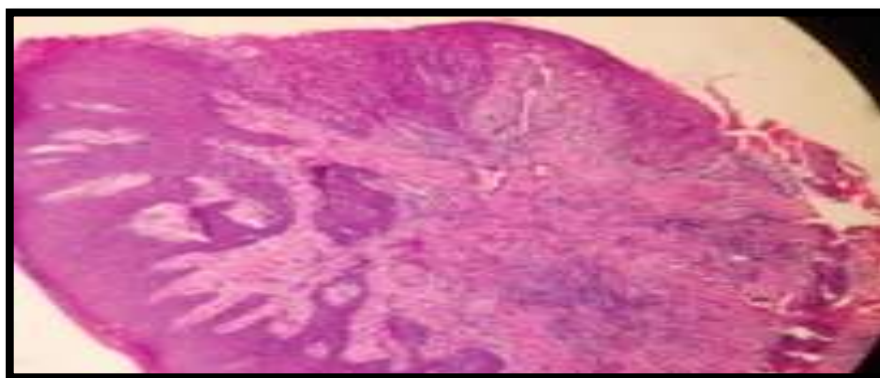


Fig 5: Photomicrograph of the specimen



Fig 6: Post-operative photograph of the same lesion after 1 week, respectively.

Healing after 1 week was quite satisfactory [Fig 6] and good ,patient was instructed to maintain good oral health and hygiene and was motivated for regular 6 monthly dental check up to avoid any delay in dental treatment in future.

II. Discussion

The term “inflammatory hyperplasia” is used to describe a large range of commonly occurring nodular growths of the oral mucosa that histologically represent inflamed fibrous and granulation tissue⁷. The size of these reactive hyperplastic masses may be greater or lesser, depending on the degree to which one or more of the components of the inflammatory reaction and healing response are exaggerated in the particular lesion. On the gingiva, a similar lesion is often referred to as an epulis^{8,9}. Focal fibrous hyperplasia is also known as irritational fibroma, oral fibroma or as fibromatosis fibroma. It is connective tumor and is the most common benign soft tissue neoplasm occurring in the oral cavity. Most fibromas represent reactive focal fibrous hyperplasia due to trauma or local irritation. Although the term focal fibrous hyperplasia more accurately describes the clinical appearance and pathogenesis of this entity, it is not commonly used. It is intimately related to fibrous hyperplasia and in many instances is histologically indistinguishable from it. A fibroma may occur at any oral cavity, most commonly seen on buccal mucosa along the plane of occlusion. Other frequent sites are gingiva, buccal mucosa, tongue, lip and palate. It is nearly always a well-defined lesion slowly growing lesion that occurs at any age but it is most common in third, fourth and fifth decade. Females are affected twice as frequently as male. The differential diagnosis of fibrous inflammatory hyperplasia should include consideration of the possibility that the lesion is a true papilloma (a cauliflower-like mass made up of multiple fingerlike projections of stratified squamous epithelium with a central core of vascular connective tissue) or a small verrucous carcinoma¹⁰. Other differential diagnosis includes giant cell fibroma, neurofibroma, peripheral giant cell granuloma, mucocele, benign and malignant salivary gland tumor. Areas of diffuse or focal calcification or even ossification are found in some fibromas chiefly those occurring on gingival and these lesions sometimes be called peripheral ossifying fibroma, ossifying fibroid epulis, peripheral cementifying fibroma or peripheral odontogenic fibroma¹¹. Sometimes similar lesion is referred to be as pregnancy epulis or pyogenic granuloma when associated with pregnancy⁷.The scalpel, lasers, and conventional electrosurgery unit are the instruments of choice for soft tissue surgery. Scalpels have been used for many years because of their ease of use, accuracy, and minimal damage to the surrounding tissue. On the other hand, scalpels cannot provide the hemostasis that is helpful for use on highly

vascular tissue¹². One characteristic difference between a laser and a scalpel cut is the generation of a coagulated tissue layer along the walls of the laser incision. Research has revealed that laser surgery can be performed safely using parameters which protect underlying bone and tooth structures¹³. Laser systems and their application in dentistry and especially oral surgery are rapidly improving today. Advantages of this tool include greater precision, a relatively bloodless surgical and postsurgical course, sterilization of the surgical area, minimal swelling and scarring, coagulation, vaporization, and cutting, minimal or no suturing, and much less or no postsurgical pain¹⁴.

Simple excision is the treatment of choice of inflammatory hyperplasia and recurrence is unlikely unless the inciting trauma continues or is repeated¹⁴. "Creeping attachment" is a phenomenon that was described by **Goldman** as the "postoperative migration of the gingival marginal tissue in a coronal direction over portions of a previously denuded root¹⁵." Gingival recession of 3 mm was seen with 21 after excision of the lesion which was covered after 12 months which can be attributed due to creeping attachment¹⁶.

III. Conclusion

Gingival overgrowth can interfere in mastication and speech and is quite disfiguring which can be esthetically unacceptable if present in anterior region. The local factors, dental plaque and calculus are responsible for gingival enlargement. Hence patient motivation and compliance in treatment planing is of utmost importance for successful management of such cases and achieving good favourable results.

References

- [1]. R. Rajendran and B. Shivpathasundharam: Shafer's Textbook of Oral Pathology, 5th ed, Elsevier 2007, page 543- 548.
- [2]. Trackman P, Kantarci A. Connective tissue metabolism and gingival overgrowth. Crit Rev Oral Bio Med 2004;15:165-175.
- [3]. Carranza FA, Hogan EL. Gingival enlargement. In: Newman MG, Takei HH, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 11th ed. Philadelphia, Penn: W.B. Saunders Company; 2006:373-390.
- [4]. Jhadhav T, Bhat KM, Bhat GS, Varghese JM. Chronic Inflammatory Gingival Enlargement Associated with Orthodontic Therapy – A Case Report. J Dent Hyg.2013;87(1):19-23.
- [5]. Inglés E, Rossmann JA, Caffesse RG. New clinical index for drug induced gingival overgrowth. Quintessence Int 1999;30:467-73.
- [6]. Seymour RA. Effects of medications on the periodontal tissues in health and disease. Periodontol 2000 2006;40:120-129.
- [7]. Jafarzadeh H, Sanatkhani M, Mohtasham N. Oral pyogenic granuloma: a review. Journal of oral science2006;48(4):167-75.
- [8]. Macleod R, Soames J. Epulides: a clinicopathological study of a series of 200 consecutive lesions. British dental journal1987;163(2):51-3.
- [9]. Daley T, Wysocki G, Wysocki P, Wysocki D. The major epulides: clinicopathological correlations. Journal (Canadian Dental Association)1990;56(7):627.
- [10]. Burket L, Greenberg M, Glick M, Ship J. Chapter 7 Benign Tumours of Oral Cavity. Burket's oral medicine: Pmph USA Ltd; 2008. p. 658.
- [11]. Saraswathi T. Shafer's textbook of oral pathology. Journal of Oral and Maxillofacial Pathology2009;13(1):46.
- [12]. Upta S, Sowmya G. Focal Fibrous Hyperplasia :Report of two cases.INT DENT CLINIC. 2012;3:126-30.
- [13]. Perry DA, Goodis HE, White JM. In vitro study of the effects of Nd:YAG laser probe parameters on bovine oral soft tissue excision. Lasers Surg Med 1997;20:39-46.
- [14]. Thiago de SS, Paulo RS, Martins F, Marta RP, Emanuel SS, Andrade ES. Focal fibrous hyperplasia: A review of 193 cases. J Oral Maxillofac Pathol 2014;18:86-9. ↑
- [15]. Goldman HM, Schluger S, Fox L, Cohen DW. Periodontal Therapy. 3rd ed. St. Louis: C.V. Mosby Co.; 1964. p. 560.
- [16]. Pardeshi KV, Mirchandani NM, Agrawal AA, Kale TM. Fibrous hyperplasia: Two case reports. J Dent Lasers 2016; 10:10 :23-7.

Legends

- [17]. **Fig 1:** Pre-operative photograph
- [18]. **Fig 2:** Post-operative photograph
- [19]. **Fig 3:** Photograph after suture
- [20]. **Fig 4:** Excised lesion
- [21]. Fig 5: Photomicrograph of the specimen
- [22]. **Fig 6:** Post-operative photograph of the same lesion after 1 week, respectively.