

Focal Fibrous Hyperplasia of the Oral Mucosa - 2 Case Reports

Vinitha Saravanan¹, Soumya Bardvalli Gururaj², Shrinidhi Maji Shankar³,
Chethana Kunthur Chidambar⁴, Bharathi Poojary⁵, Kala Bhushan⁶

ABSTRACT

Focal fibrous hyperplasia is one of the most common epithelial benign tumours encountered in the oral cavity. Oral mucosa responds by being reactive, progressively proliferative to injury and local irritation. Males have two times lesser predilection than females. Once excised, the recurrence is generally rare. The following is a report of two cases of fibrous hyperplasia that were surgically excised by the use of a diode laser.

Key words: benign tumours, diode laser, fibrous dysplasia, local irritation.

INTRODUCTION

The local increase in size of gingiva is can be referred to as gingival overgrowths and may have varied clinical presentations. Very often these localized overgrowths can be reactive lesions/ hyperplasia to dental plaque, prosthesis, interproximal restorations, sharp cusps etc. Plaque-induced gingival enlargement almost always resolves with a good phase I therapy. However, there is a small group of localized gingival overgrowths which clinically present as reactive/inflammatory hyperplasia/nodular growths.¹ The chronic inflammation resulting from the above mentioned irritants may assault the soft tissue and they eventually develop into progressive, proliferative lesions.² Certain reactive lesions like fibrous hyperplasia can also occur on non-gingival sites like lip, hard palate, tongue and even on edentulous ridges.

Some of the hyperactive lesions of the oral cavity are:

1	Lesions predominantly involving gingiva	Pyogenic granuloma Peripheral giant cell granuloma Peripheral ossifying fibroma
2	Lesions predominantly involving palate	Nicotine stomatitis Inflammatory papillary hyperplasia
3	Lesions involving alveolar mucosa	Epulis fissuratum
4	Lesions involving buccal mucosa & vestibule	Smokeless tobacco keratosis.
5	Lesions involving tongue	Hairy tongue

Department and Institution Affiliation: ¹Department of Periodontology, Sharavathi Dental College and Hospital, Shimoga.

Corresponding author: Dr. Vinitha Saravanan. Post graduate student, Department of Periodontology, Sharavathi Dental College and Hospital, Shimoga, Karnataka, India. Email : vinitha.saravanan12@gmail.com

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6	Lesions involving any site	Focal fibrous hyperplasia Traumatic ulcerations Giant cell fibroma Frictional keratosis Oral mucosal peeling (OMP)
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Table 1: Hyperactive lesions of the oral cavity

Focal fibrous hyperplasia also referred to as irritation or traumatic fibroma, usually presents as a pale pinkishwhite, sessile, smooth-surfaced, asymptomatic, soft nodule. It tends to become hyperkeratotic or ulcerated on repeated trauma. Intraorally, focal fibrous hyperplasia occurs most frequently at the site of occlusal line of buccal mucosa. Other affected sites are lower lip, tongue, hard palate and edentulous alveolar ridge.³

Connective tissue responds as different histological entities to varying intensities of mucosal irritation, very often these lesions can be similar to benign neoplastic proliferation.⁴

The following is a report of two cases of focal hyperplasia

CASE REPORT

Case 1

A 45 year old male, with no systemic history, presented with a soft tissue growth of the cheek on distal aspect of mandibular left third molar. [Figure 1a]. The growth measuring 8mm X 4mm [Figure 1d] was firm, sessile and non tender on palpation. The patient noticed the growth when it was the size of a pea and it eventually increased in size over a period of six months. The patient also gave a history of tobacco chewing for the past 20 years. [4-5 times/day]. After routine scaling and root planing, surgical excision of the growth was performed with a soft tissue diode laser at 980nm wavelength and power setting of 1.3 watts.

[Figure 1b, 2b] The excisional biopsy samples were sent to the laboratory for analysis. Patient was counselled to quit tobacco chewing to reduce the risk of recurrence.

HISTOPATHOLOGICAL ANALYSIS

H and E sectioning showed abundance of parakeratotic stratified squamous epithelium exhibiting irregular rete ridges.

Connective tissue with dense bundles of collagen fibers with parallel orientation was present. Mild inflammatory cell infiltration and vasculature were seen to be present. [Figure 1e] On analysis, the results indicate the mass to be focal fibrous hyperplasia.

CASE 2

A 41 year old female patient with a chief complaint of swelling on the inner cheek presented with a growth on the inner aspect of the left cheek lower first molar region of 36. [Figure 2a] The patient had no prior medical history. However, the patient had a history of cheek biting near 35,36 region since past 3 months. The growth was pedunculated and had dimensions of 10mm X 7mm. Consistency was firm, non-tender on palpation. [Figure 2c]. Surgical excision of the mass was done using soft tissue diode laser of 980nm wavelength with a power setting of 1.3 watts. Patient was counseled to practice mindfulness and meditation to reduce stress and reduce the frequency of cheek biting.

HISTOPATHOLOGICAL ANALYSIS

H and E section showed parakeratotic and orthokeratotic stratified squamous epithelium. Connective tissue with interspersing dense bundles of collagen fibers arranged haphazardly were present. Mild infiltration of chronic inflammatory

Case 1



Fig1a Growth Distomolar to 49



Fig1b Excisional Biopsy with laser



Fig. 1c Immediate postoperative site



Fig. 1d Biopsy sample measuring 8mmx-4mm

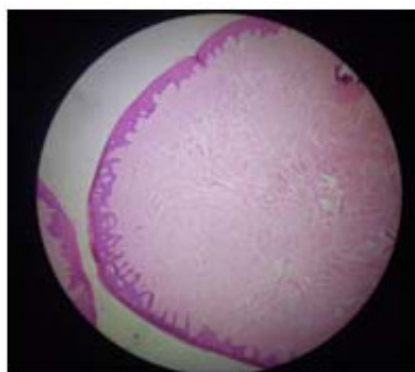


Fig. 1e Histopathological section

cells with moderate vascularity was present. [Figure 2e] The histological features were suggestive of irritational fibroma.

DISCUSSION

Oral reactive hyperplasia on histopathological analysis generally presents with increased fibrous connective tissue. Clinically, it appears as an overgrowth on the mucosa at the site of injury or irritation.⁵ Recurrent trauma at the site can cause inflammation of the mucosa. On a microscopic level, increased production of granulation tissue and endothelial cells are seen. This further stimulates fibroblast proliferation that manifests as gingival hyperplasia in the oral cavity. These lesions often involve exaggerated repair in which granulation tissue and scar formation occurs.⁶

The treatment protocol for such lesions is removal of local factors that might stimulate the recurrence at the same site followed by surgical excision of the overgrowth. A conservative approach is advocated during excisions along with thorough excision and debridement of the site. Follow-up is essential to check the tendency to recur.⁷

Trajtenberg and Adibi advocate the application of diode lasers for the treatment of soft tissue lesions. Reduced post-operative pain and discomfort of the patient along with enhanced healing sequelae favours this approach as compared to conventional techniques.⁸ The advantages of lasers for excisions include precise technique, clear field for the clinician

and avoidance of suturing. Damage to the surrounding tissue due to excess thermal damage can be minimized by constant irrigation and post-operative photobiomodulation with 810 nm wavelength and low level laser therapy power setting below 100 mW. This promotes an atraumatic excisional procedure as well as minimal inflammation.⁹

The recurrence of traumatic fibroma is largely influenced by factors such as dental calculus, fractured restorations, occlusal trauma, sharp or irregular tooth edges, and lip-biting habits. The method of excision does not seem to influence the rate of recurrence.¹⁰

There is no clear consensus on the recurrence rate of a specific lesion based of the technique used. However, according to a study by Shivhare (2022), excisions of oral lesions using diode lasers had a recurrence rate of 7.6% when compared to other techniques.¹¹

DIFFERENTIAL DIAGNOSIS

The differential diagnosis should consider, pyogenic granuloma, peripheral ossifying fibroma. Pyogenic Granuloma is a highly vascular growth, often pedunculated, that bleeds easily when irritated or provoked, clinically the growth in this case report did not show occult vascularity and neither did it bleed on provocation. Peripheral Ossifying Fibroma appears as a firm, slow-growing, pink or reddish lesion, usually found on the gingiva, often near the anterior teeth, the growth in the pres-

Case 2



Fig. 2a Pre-operative view on inner aspect of cheek



Fig. 2b Excision with laser



Fig. 2c Growth measuring 10 mm x 7mm



Fig. 2d Immediate postoperative view

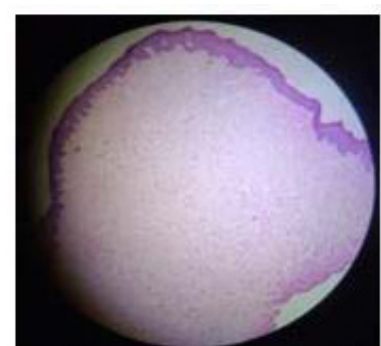


Fig. 2e Histopathological section

ent report was associated with the mucosa adjacent to posterior teeth. In contrast, Focal Fibrous Hyperplasia manifests as a soft, firm, or rubbery mass, typically asymptomatic, most often does exhibit a stalk and usually presents as smaller lesions.^{12,13}

CONCLUSION

Focal fibrous hyperplasia is typically a benign soft tissue growth that develops in reaction to a local irritant. If the underlying cause is not addressed, it can progressively enlarge over time.¹⁴

The most commonly advised treatment modality is the excision of the overgrowth. Excisions with soft tissue diode laser have proven to present with substantially lower rate of recurrence as compared to other techniques.¹¹

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