Fibrous Hyperplasia: From Diagnosis to Treatment

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ABSTRACT

Fibrous hyperplasia, also known as irritation or traumatic fibroma, is a reactive, inflammatory hyperplastic lesion of the connective tissue. Local and systemic factors influence the gingival conditions of the patient that result in a spectrum of diseases that can be developmental, reactive, and inflammatory to neoplastic. Reactive fibrous hyperplasia comprises a group of fibrous connective tissue lesions that commonly occur in the oral mucosa as a result of injury or chronic irritation. Laser can be used for the excision of soft tissue growth. They provide bloodless field of surgery and allow complete removal. In this report, a 22-year-old male, who had a localized gingival enlargement affecting the palatal aspect of maxillary left and right central incisors, underwent diode laser-assisted excision of focal fibrous hyperplasia.

Keywords: Fibrous hyperplasia, Gingival enlargement, Inflammatory hyperplasia.

INTRODUCTION

The oral mucosa is constantly subjected to external and internal stimuli and, therefore, manifests a spectrum of diseases that range from development, reactive, and inflammatory to neoplastic. Different types of localized reactive lesions may occur on the gingiva, including focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma, and peripheral ossifying fibroma. Fibrous hyperplasic lesions represent the most frequently encountered oral mucosal lesions in humans. The causative etiology for this lesion can be attributed to the local irritants like plaque, calculus, overhanging margins, trauma, and dental appliances.

Focal fibrous hyperplasia is a reactive, inflammatory hyperplastic lesion of connective tissue, and the accumulation and retention of plaque is the chief cause of it. Diagnosis of each lesion from the groups is aided by their clinical and radiographic features, but histopathology is the key for final diagnosis.

CASE REPORT

A 22-year-old male patient reported to the Department of Periodontology and Implantology, Institute of Dental Sciences, Bareilly, Uttar Pradesh, India, in January 2017 with a chief complaint of swelling in upper front tooth region since 7 to 8 years.

He complained that the lesion started as a small painless swelling that had gradually increased in size with time. He also stated that there was no history of bleeding or pain in the lesion throughout the time. On intraoral examination, a localized gingival enlargement affecting the palatal aspect of maxillary left and right central incisors (Fig. 1). The lesion was pale red in color, soft in consistency, measuring 8 × 5 mm in dimension. Subgingival calculus and plaque were present. Patient was unable to maintain oral hygiene in this area, because of gingival enlargement, while other parts of the oral cavity showed normal gingival and satisfactory oral hygiene.

Based on patient’s history and clinical examination, a provisional diagnosis of irritational fibroma was made.

The routine blood investigations were carried out, with all the values lying within the normal limits. Oral hygiene instructions were given and scaling and polishing were done on the first visit. Then, the patient underwent diode laser-assisted excision of the lesion.

Fig. 1: Localized gingival swelling
was recalled for excision of the lesion via soft tissue diode laser (Fig. 2). After excision, residual calculus was removed and root planing was performed (Figs 3 and 4). The excised lesion was sent for histopathological examination. Periodontal dressing was placed on the surgical area, postoperative instructions were given, and patient was placed on medications. The patient was motivated to maintain oral hygiene and was asked to rinse her mouth with 0.2% chlorhexidine mouthwash twice daily for 1 week. The patient was kept under observation through recall checkups to see healing and gingival tissue status.

The histopathological examination under low-power view demonstrates stratified squamous hyperkeratinized epithelium overlying fibrovascular and cellular connective tissue stroma (Fig. 5). Under high magnification, the connective tissue stroma comprises dense bundles of collagen fibers with plump to spindle-shaped fibroblasts. In few areas, hyalinized collagen fiber bundles are also appreciated; few endothelial-lined blood vessels with red blood cells (RBCs) are seen (Fig. 6).

On the basis of histopathological report and clinicopathological correlation, a final diagnosis of fibrous hyperplasia was made.
On postoperative recalls after 15 days, the site healed uneventfully (Fig. 7). Patient was instructed to maintain oral hygiene. The patient was free from any obvious clinical recurrence during a follow-up period of 6 months.

DISCUSSION

Gingival enlargement may be caused by a multitude of causes. The most common is chronic inflammatory gingival enlargement, when the gingiva presents clinically as soft and discolored.\(^1\) Situations in which the chronic inflammatory gingival enlargements include significant fibrotic components that do not respond to and undergo shrinkage when exposed to scaling and root planing are treated with surgical removal of the excess tissue.\(^5\)

Reactive hyperplasia comprises a group of fibrous connective tissue lesions that commonly occur in the oral mucosa as a result of injury or chronic irritation.\(^6\) The differential diagnosis of reactive lesions of the gingiva should include pyogenic granuloma, fibrous hyperplasia, peripheral giant cell granuloma, and peripheral odontogenic fibroma.\(^7\)

Histologically, inflammatory fibrous hyperplasia is made up of a mass of hyperplastic connective tissue with dilated blood vessels, usually with chronic inflammatory cells, such as lymphocytes and plasma cells, but it can also be made up of solid connective tissue with minimum to no inflammatory cells, the latter called fibrous hyperplasia. The surface epithelium ranges from normal to acanthotic, ulcerated, keratotic, or a combination of two or more of these features.\(^8\)

Surgical excision is the preferred treatment of choice, with removal of local irritants to prevent recurrence. Laser is a device that produces coherent electromagnetic radiation. Because of the photophysical characteristics of lasers, laser irradiation exhibits strong ablation, hemostasis, detoxification, and bacterial effects on the human body. These effects could be beneficial during periodontal treatment, especially for the fine cutting of the soft tissue as well as in the debridement of diseased tissues.

Compared with the use of a conventional scalpel, laser can cut, ablate, and reshape the oral soft tissue more easily, with no or minimal bleeding and little pain as well as no or only a few sutures.\(^9\) Thus, in the periodontal therapy, laser treatment serves as an alternative or adjunctive therapy to mechanical approaches.\(^10\)

For hyperplastic lesions, a conservative approach is recommended. Local irritants should be removed. Those lesions failing to resolve should be surgically excised. Follow-up of the patient is needed as it exhibits a tendency to recur.\(^11\)

CONCLUSION

Fibrous hyperplasia is a slowly progressing lesion, the growth of which is generally limited. Many cases will progress for long periods before patients seek treatment because of lack of symptoms associated with the lesion. Long-term follow-up of the case is required to prevent recurrence of the lesion.

REFERENCES