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Excision Of Inflammatory Fibroepithelial Hyperplasia Using Electrosurgery: A Case Report

Afreen Jannath. A[1], Krishnan. V[2], Srinivasan. S[3], Rajasekar.S[4]
[1]*Postgraduate Student, Department of Periodontology, Government Dental College and Hospital, Cuddalore*
[2]*Professor, Department of Periodontology, Government Dental College and Hospital, Cuddalore*
[3]*Professor, Department of Periodontology, Government Dental College and Hospital, Cuddalore*
[4]*Professor and Head, Department of Periodontology, Government Dental College and Hospital, Cuddalore*

Abstract:
Fibroma is the most common soft tissue neoplasm occurring in the oral cavity and it arises from gingival connective tissue and periodontal ligament. Fibroepithelial hyperplasia is a histological variant of fibroma and because of their proliferative nature, they often cause aesthetic and functional problems. A case of a 21 year old female, who presented with gingival overgrowth in the lower front tooth region for the past 6 months is discussed in this article. The lesion was excised using electrosurgery, sent for histopathological evaluation and uneventful healing was noticed. This case demonstrates the need for awareness, and role of biopsy and histologic evaluation in management of these type of reactive lesions, as longstanding lesion in presence of chronic irritation may convert into a neoplasm.

Key words: *Fibroma, Fibroepithelial Hyperplasia, Excision, Electrosurgery*

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I. INTRODUCTION:

Oral mucosa has been constantly subjected to external and internal stimuli and therefore manifests a spectrum of disease ranging from developmental, reactive, and inflammatory to neoplastic(1) Fibroma is the most common soft tissue neoplasm occurring in the oral cavity and it arises from gingival connective tissue and periodontal ligament(2). Reactive lesions are clinicopathological benign, reactive variant of fibroma, usually solitary and occur as a result of chronic and recurrent tissue injury leading to exuberant tissue response(3).

The prevalence of reactive lesions of the gingiva is reported to be rather common with the peripheral fibroma (56 – 61%)(4),out of which 39% accounts for inflammatory fibroepithelial hyperplasia(3), followed in descending order by the pyogenic granuloma (19 – 27%), peripheral ossifying fibroma (10 - 18%), and peripheral giant cell granuloma (1.5 – 7%) based on over 3000 cases studied(4).

Clinical manifestations:

The lesions are generally asymptomatic and appears as a raised mass (dome shaped nodule) that is pedunculated or sessile with a smooth surface and is usually the same colour as the surrounding gingiva. The nodule is usually less than 1 cm in diameter. If traumatized the surface may ulcerate and alter the pale pink colour of the lesion. They are commonly found in the interdental papilla of the anterior teeth (60% in maxilla), in adults (fourth to sixth decade of life) with a slight female predilection. Most often the local irritational factors are due to calculus, caries, defective restorations, and trauma(5). Differential diagnosis of fibroma includes giant cell fibroma, neurofibroma, peripheral giant cell granuloma, mucocele, lipoma, or salivary gland tumour. Histologically, fibroblasts may be scattered in a dense, collagenous matrix, mild chronic, inflammatory infiltrate may be present, but is not a consistent finding(6). The lesion is managed by surgical excision and has an excellent prognosis with a low recurrence rate(7).

II. CASE REPORT:

Patient information:

A 21 year old female patient came to the Outpatient Department of Periodontology at Government Dental College & Hospital, Cuddalore District, Tamilnadu with the chief complaint of swollen gums in lower front tooth region for past 6 months. The growth, which was initially smaller, gradually increased to attain the present size and presented with no history of pain, bleeding, or pus discharge in respect to the site of growth. Patient reveals history of irregular menstrual history for past 1 year**.** Extraoral examination reveals no abnormality.

Clinical examination:

On intraoral examination, an oval, sessile overgrowth, Reddish pink in colour measuring 8x 6 mm in size, soft and edematous in consistency and extends from the midbuccal region of 41 to midbuccal of 42 involving interdental papilla and attached gingiva(figure 1). Oral hygiene status of the patient was poor. Other oral findings included generalized probing depth of 3-4 mm, inadequate in relation to 32,31,41 & 42, fremitus test was positive in lower anteriors. Based on the patient's history and clinical findings, a provisional diagnosis of pyogenic granuloma was made in relation to 41 & 42 and differential diagnosis of irritation fibroma and peripheral giant cell granuloma was also considered.

The patient was subjected to routine haematological and radiographic investigations. Blood investigation was within normal limits. Intraoral peri-apical radiograph revealed widening of periodontal ligament space with crestal bone loss in relation to 32, 31, 41, 42(figure 2).

Figure 1

figure 2

figure 3

Treatment and follow up:

Following phase I therapy of complete supra and sub-gingival scaling, occlusal adjustments (coronoplasty) were also done in lower anteriors(figure 3). A week after SRP, excisional biopsy was performed using electrocautery in relation to 42 & 41.

Local Anesthesia was given as mental nerve block on right side and as a labial infiltration on left side in relation to lower left lateral incisor. Excisional biopsy was performed using Electrocautery (electrosurgery dental Vet cutting unit). Cutting mode was used for excision and carried out using single wire electrode (figure 4). Light brushing strokes was used and the tip was kept moving all the time. Intermittent application was done, followed by saline irrigation for sufficient tissue cooling. Hemostasis was achieved. Curettage was done using Area Specific Gracey curettes in relation to 41, 42(figure 5).

This was followed by frenotomy of mandibular Labial frenum as the tension test was positive. Horizontal linear incision was given in relation to 32,31,41,42. Using cutting mode of electrocautery, excision was performed using single wire electrode. Underlying fibrous attachment were relieved. Hemostasis was achieved by gentle digital pressure (figure 6,7).Periodontal dressing was placed in relation to lower anterior teeth (figure 8).Post operative instructions were given and medications prescribed. The excised lesion was preserved in 10% formalin and was sent to Department of Oral Pathology for histopathological investigation. Patient was reviewed at 2 weeks and 1 month and uneventful healing was noticed(figure 9,10).

Figure 4

figure 5

figure 6

figure 7




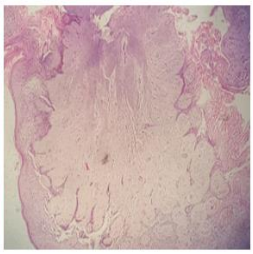

Figure 8 figure 9 figure 10 figure 11

Histopathological investigations:

Hematoxylin and Eosin stained section shows surface covered with hyperplastic parakeratinized stratified squamous epithelium and fibrous connective tissue exhibiting dense infiltration of chronic inflammatory cells, numerous blood vessels and pseudo epitheliomatous hyperplasia at 10 X magnification(figure 11). Histologically suggestive of inflammatory fibro-epithelial hyperplasia.

III. DISCUSSION:

Almost all lesions in the oral cavity that are called fibromas are not true neoplasms. The fibrous epulis, a focal hyperplasia found on gingiva or alveolar mucosa, is often related to chronic irritation. In this patient, the involved gingiva appeared to be firm without spontaneous bleeding and the presence of plaque and calculus as well as trauma from occlusion could be the cause for the proliferation of gingival tissue and the chronicity of irritation would have resulted in the fibrotic nature of the gingiva.

Fibro epithelial hyperplasia when inflamed are covered by uniformly hyperplastic epithelium, with arcading rete pattern when ulcerated. Thin spiky or elongated bilaminar rete processes are seen which penetrates deeply into the connective tissue. This rete hyperplasia is prominent when marked inflammation is present, but in less inflamed lesions epithelium becomes regular with flat basement membrane or may get atrophied (Shafer's Textbook of Oral Pathology).

Daley et al suggested that the vascular component of pyogenic granuloma is gradually replaced by fibrous tissue with time and, hence, diagnosed as a fibrous hyperplasia or fibroma. In addition, Natheer Al- Rawi observed that fibrous hyperplasia on the gingiva not only have the same female gender preponderance but occur in the same age group and site as gingival pyogenic granuloma(8). Therefore, from the above-mentioned studies, an inference was made that fibrous hyperplasia represents a fibrous maturation of pyogenic granuloma especially in lesions with long duration.

The choice of treatment is the excision of the lesion which can be accomplished by either scalpel, laser and electrocautery. Electrosurgery produces precise cutting with the self disinfecting tip without the use of manual pressure, immediate and consistent haemostasis and scar free wound healing. Alessandro et al(2020) compared the efficacy and safety of Diode laser and electrocautery techniques for inflammatory fibrous hyperplasia in a double blinded study and reported that the Diode laser is as effective and safe as electrocautery when applied under similar conditions(9). On the contrary, Thaslim et al(2020) compared wound healing and Visual Analog Scores using laser and electrocautery and reported that excision with diode laser was advantageous over electrocautery with no post-operative pain.

Noble et al. (2019) conducted a case series in the Management of Irritational Fibroma by three Different Treatment Modalities and reported that the Laser and electrocautery are superior over scalpel in relation to hemostasis, while Laser is advantageous over electrocautery as it causes less lateral damage by heat, better wound healing and can be used in bone proximity(10).

In this case, we used Electrosurgery to excise the fibroepithelial hyperplasia as it provides better hemostasis and patient comfort when compared to the scalpel.

IV. CONCLUSION:

Identification of any reactive hyperplastic gingival lesion requires the formulation of a differential diagnosis to enable accurate patient evaluation and management. A biopsy will ensure a better and a more ideal treatment plan for the patient and prevent recurrence of these lesions These hyperplastic conditions are considered self limiting. But since they interfere with form and function, they need to be excised. Also, longstanding hyperplastic lesions in the presence of chronic irritation can get converted to neoplasia.

References

[1]. 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(1):35–40.
[2]. Newman MG, Takei H, Klokkevold Pr cf. Carranza's clinical periodontology thirteenth edition page 266.
[3]. Carter JH, Sketris IS, Tamim HH, Levy AR, Langley JM. Journal of Population Therapeutics & Clinical Pharmacology. J Popul Ther Clin Pharmacol. 2019;26(2):E1–4.
[4]. Eversole LR, Rovin S. Reactive lesions of the gingiva. J Oral Pathol Med. 1972;1(1):30–8.
[5]. Rose L, Mealey B, Genco R CD. Periodontics: Medicine, Surgery, and Implants By Louis F. Rose, Brian L. Mealey, Robert J. Genco, and D. Walter Cohen Elsevier Mosby; Philadelphia: 2004. 990 Pp. Vol 99.; 2004.
[6]. Prasanna J, Sehrawat S. Fibroepithelial hyperplasia: Rare, selflimiting condition- Two case reports. J Adv Oral Res. 2012;3(3):63–70.
[7]. Mayank Jain, Aruna V Singh, Swati Lekha, Sahil Prashar. Fibroepithelial Hyperplasia: A Case Report. Int Healthc Res J. 2017;1(6):16–9.
[8]. Al-Rawi DNH. Localized Reactive Hyperplastic Lesions of the gingiva:A clinico-pathological study of 636 lesions from Iraq. Mustansiria Dent J. 2018;5(2):213–8.
[9]. de Jesus AO, Matias MDP, de Arruda JAA, Aires AV, Gomes IP, Souza LN, et al. Diode laser surgery versus electrocautery in the treatment of inflammatory fibrous hyperplasia: a randomized double-blind clinical trial. Clin Oral Investig. 2020;24(12):4325–34.
[10]. Noble S, Guru S. Management of Irritational Fibroma by Three Different Treatment Modalities-A Case Series. Int J Innov Sci Res Technol [Internet]. 2019;4(3):415–8. Available from: www.ijisrt.com415

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