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Focal fibrous hyperplasia: A case report

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Abstract

The most common epithelial benign tumor of the oral cavity is Focal fibrous hyperplasia. The major etiology is injury or local irritation to the oral mucosa which reacts in a localized manner and progressively proliferates. When compared to males, females are more likely to develop this fibroma. Complete excision is the mostly followed treatment protocol and rarely recurrence is observed.

Keywords: Periodontal dressing, Silver nanoparticles nanoparticle dressing (ACTICOAT®), non-eugenol periodontal dressing (Coe-Pak™), periodontitis, surgical flaps, wound healing

Introduction

The oral cavity is a dynamic part which is exposed frequently to both internal and external stimuli, which results in various diseases, it may be developmental, reactive, neoplastic. Clinically it is soft sessile nodule, located on the buccal or labial mucous membrane or the lateral edge of the tongue generally. FFH affects people of all ages and both genders, and has a greater frequency in female adults, similar to that found by Zarei *et al.* Given predilection for adults is probably related to the specific features in this range of life, which include denture wearers, lower-lip-biting habit, chronic cheek-biting. In addition to the mechanical stimuli, it is possible that female hormones contribute to an increased production and accumulation of collagen by fibroblasts in the presence of a chronic injury. Interestingly, when hormonal changes are most predominant other reactive lesions also show a great predilection for females and detected in the first five decades of life. Clinically, these reactive lesions often present diagnostic challenges because they mimic various groups of pathologic processes. Definitive diagnosis is based on histological analysis to rule out the possibility of lesions that may have a similar appearance, such as fibrous epulis, pyogenic granuloma, peripheral giant cell granuloma, fibro-epithelial polyp, peripheral ossifying fibroma, pregnancy epulis giant cell fibroma, and commonly manifest in the gingiva.

Contrary to the idea that FFH lesion is a true neoplasm, as observed in the present case, mechanical trauma is closely related to the development of the FFH. Its surface is covered with a normal mucosa with sometimes on the top a keratotic patch or an ulceration linked to the chewing trauma. This lesion being clinically asymptomatic and recurs with improper elimination of etiology. In addition, it is important to explain that FFH should be differentiated from an unusual non-neoplastic lesion of the oral cavity known as giant-cell fibroma. This lesion occurs most commonly on the gingiva and tongue, in the young patients, without sex predilection. These are similar clinically but differ histopathologically. This paper reports surgical removal case of focal fibrous hyperplasia.

Case Report

Clinical Presentation and Surgical Procedure

A 30 years old female consulted our department with a chief complaint of an overgrowth in the left labial mucosa of the mouth for the past six months. The lesion started as a small nodule and grew, but no change since then was noted. The intraoral examination revealed localized, compressible, oval and well-defined soft nodule of 2 x 2 cm in diameter in the lower left labial

mucosa corresponding to the canine region. The color of the nodule resembled normal mucosa with. No other signs or symptoms were detected. All the Blood investigations were normal. After scaling and root planing patient was recalled after 1 week. Preoperative images were taken as a purpose of documentation. Profound local anesthesia was given at the surgical site. Initiating with the sulcular incision extending from 31 to 34, labial and lingual flap elevation was done after which the excision of overgrowth and meticulous debridement was done simultaneously. Gingival biopsy tissue was stored in 10% formalin as soon as excision is done. Simple interrupted sutures were placed to hold the flaps in position. Periodontal dressing is placed to secure the surgical site. Post-operative images were also taken.

Histopathological Report

H & E stained section show presence of hyperplastic parakeratinised stratified squamous epithelium of variable thickness along with underlying connective tissue stroma. The epithelium exhibits broad rete ridges in few areas showing pseudo epitheliomatous growth into the underlying connective tissue stroma. The underlying connective tissue consists of dense collagen fiber bundles with blood vessels and chronic inflammatory infiltrate chiefly composed of lymphocytes and plasma cells. Histopathological features suggestive of inflammatory fibroepithelial hyperplasia.

Discussion

According to Lucas and Barker, irritational fibromas exhibit two variants of collagen arrangement. It depends on the site of the lesion and the amount of irritation. There are two types of patterns: 1) circular pattern 2) radiating pattern. Thus, they hypothesized that when there is a greater degree of trauma, while lesser trauma induces the former and it occurs in sites that are flexible in nature (e.g., cheeks)the latter appears in sites which are immobile in nature (e.g., palate),.Similar such lesions, with same clinical appearance which may also arise as a result of irritation due to plaque microorganisms and other local irritants, include pyogenic granuloma, peripheral giant cell granuloma, and peripheral ossifying fibroma. Oral practices such as tongue piercings has also been reported cases of traumatic fibroma.

Galen used the term epulis for the first time for the tumor on gingiva which means any abnormal gingival growth. The application of the word has been restricted to only certain types of growth but is used in more general meaning by some authors.



Fig 2: excision of the overgrowth along with flap elevation and debridement is done



Fig 3: flap approximation done with suturing



Fig 4: H&E stained section hyperplastic parakeratinised epithelium and pseudo epitheliomatous growth in the connective tissue stroma



Fig 1: Gingival overgrowth interdentally between 32, 33



Fig 5: 1-week post-operative image before suture removal



Fig 6: 1month postoperative image

Daley. *et al* proposed that in pyogenic granuloma the vascular component is gradually replaced by fibrous tissue with time and is diagnosed as a fibrous hyperplasia. Natheer Allawi noted that fibrous hyperplasia involving gingiva not only have the same female preponderance but also occurs in the same age group as that of gingival pyogenic granuloma. In addition to tissue response of irritants few reported fibrous gingival overgrowth, drugs as etiology. The term fibro-epithelial hyperplasia is sometimes confused with focal epithelial hyperplasia, an HPV infection is the known etiology wherein the oral mucosa shows alterations in the epithelium and not in the connective tissue. Reactive hyperplasia with a natal tooth in a 4-year and 6-month-old infant, showing that local irritants are one of the major causes of these reactive hyperplastic lesions where associations are reported. In a retrospective study by Martins *et al.*, 193 cases of focal fibrous hyperplasia of the oral cavity were reviewed and it was observed that the most commonly affected site was the buccal mucosa (n = 119, 61.7%), almost two-thirds of the cases were concentrated from the second to the fifth decade of life, males are less affected than females, and a history of trauma was related by 90.7% of the patients.

The response may be influenced by the levels of serum endocrine hormones. In addition to the clinical features of the lesion, the patient's demographics, associated symptoms, related systemic disorders and location and growth patterns of the lesion all give clues to adequately diagnose and treat their typical histopathologic architecture. Any identifiable irritant such as an ill-fitting dental appliance, rough restoration, root stumps should be eliminated. Long-term postoperative follow-up is extremely essential because of the high growth potential of incompletely removed lesion which is 8%–20%. Recurrences are rare and may be caused by repetitive trauma at the same site. Furthermore, this lesion does not have a risk for malignancy.

Conclusion

The treatment of irritation fibroma could be elimination of etiological factors, scaling of adjacent teeth, and total aggressive surgical excision along with involved periodontal ligament and periosteum to minimize the chances of recurrence. Simple surgical excision is the treatment of choice of FFH and also laser can be used. A tissue biopsy will ensure a better and a more ideal treatment plan for the patient and prevent recurrence of these lesions. Further studies are needed on the distribution of the lesions, influence of sex hormones, in different ethnic and geographical populations.

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