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Oral Fibroepithelial Hyperplasia: Clinical Presentation and Management in a Rare Case

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Abstract: - Fibromas represent the most prevalent type of fibrous overgrowths found in the oral cavity, usually arising as a result of prolonged, mild irritation. Management includes meticulous plaque control, removal of underlying causative factors, and conservative surgical removal to minimize the risk of recurrence. Hence, it is crucial for clinicians to possess a comprehensive knowledge of these lesions to effectively distinguish them from other lesions with similar clinical appearances.

In this case report, a 60-year-old female patient presented with a gingival overgrowth on the left anterior maxilla, persisting for the past three months. The presence of ossifications within fibroepithelial hyperplasia in this age group is a rare and unusual finding, as noted in previous case reports. The lesion was surgically excised using electrocautery, and postoperative healing was uneventful within one week.

Histopathological differential diagnoses of fibroepithelial hyperplasia include pyogenic granuloma, peripheral giant cell granuloma, and irritational fibroma. Electrocautery, a precise and efficient surgical modality, was utilized in this case for effective lesion removal with minimal tissue trauma and is preferred for its ability to minimize bleeding, reduce infection risk, and promote faster healing.

Keywords: Electrocoagulation, Fibroepithelial Hyperplasia, Fibroma.

Introduction

The term *fibroepithelial hyperplasia* was first introduced by Daley et al. in 1990.[1] It refers to a reactive and progressive enlargement of the oral mucosa triggered by trauma or persistent local irritation.[2] These lesions may lead to cosmetic issues and can impede functions such as chewing, articulation, and maintaining proper oral hygiene. Frequent contributing factors include the buildup of dental plaque and calculus, poorly contoured restorations, presence of foreign materials, habitual trauma such as chronic cheek or lip biting, and improperly fitting prosthetic appliances.[3]

The oral mucosa is continually subjected to both external and internal stimuli, rendering it vulnerable to a diverse array of conditions, including developmental anomalies, reactive overgrowths, inflammatory processes, and neoplastic disorders.[4] Reactive lesions can emerge at any site within the oral cavity; however, they are most commonly found on the gingiva, tongue, and lips.[5] These lesions are benign, localized enlargements that result from repeated or persistent tissue irritation, triggering an exaggerated reparative tissue response.[6]

Common forms of reactive lesions in the oral cavity include pyogenic granuloma, fibrous epulis, peripheral giant cell granuloma, fibro-epithelial polyp, peripheral ossifying fibroma, giant cell fibroma, and pregnancy epulis.[7] Among these, the gingiva is frequently affected. Clinically, these reactive lesions can present diagnostic difficulties as they often mimic other pathological conditions. Despite sharing similar clinical characteristics, each lesion exhibits unique histopathological features. When the connective tissue growth is confined to the gingival tissue, these lesions are collectively referred to as "epulides."[1,8]

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Case Report

Clinical presentation

A 60-year-old female patient presented to the outpatient department of periodontology with the primary complaint of gingival overgrowth in the region of the upper left anterior teeth, persisting for the past three months. She reported a history of excision of a similar growth in the same area two years ago. Extraoral examination revealed no notable abnormalities. Intraoral examination showed no significant findings regarding the labial mucosa, buccal mucosa, floor of the mouth, or tongue. Gingival examination revealed an 8x9 mm, pinkish red, pedunculated growth extending from the labial gingiva to the palatal gingiva, involving the marginal gingiva, attached gingiva and interdental area between left maxillary lateral incisor and canine. The gingival overgrowth was a vivid red and localized to the labial gingiva, extending from the upper left lateral incisor to the canine region. Upon probing, there was noticeable bleeding (Fig. 1).

Fig. 1: Pre- operative clinical picture

The Simplified Oral Hygiene Index (OHI-S) score was 2, indicating inadequate oral hygiene.[9] Orthopantomogram shows horizontal bone loss (Fig. 2).

Fig. 2: Pre- operative radiograph

Blood investigations were done followed by full mouth disinfection. Electrocautery was used to achieve haemostasis by using ball end electrode tip (Fig. 3 & 4)

Fig. 3: Electrocautery unit

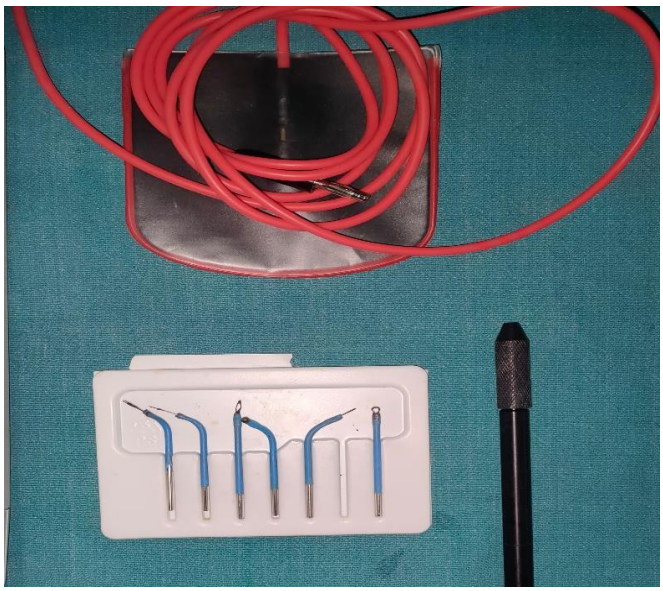

Fig. 4: Represents commonly used electrode tips

Under local anesthesia, the gingival overgrowth was excised along with a margin of healthy tissue. Bleeding was controlled using electrocautery with a hemostatic ball electrode, and the wound was sutured with simple interrupted stitches. A collagen sponge was applied to the excision site to promote healing. There was uneventful healing after 30 days & minimal scar formation is evident with use of electrocautery (Fig. 5).

Fig.5: Post- operative picture showing uneventful healing after 30 days

The excised specimen was placed in 10% formalin and forwarded to the Department of Oral Pathology for fixation, sectioning, and histological analysis.

Histopathological Report

Histopathological examination revealed hyperparakeratinized stratified squamous epithelium of varying thickness, accompanied by an underlying connective tissue stroma composed of dense collagen fiber bundles. The stroma exhibited significant inflammatory cell infiltration, predominantly consisting of neutrophils, lymphocytes, and plasma cells. Additionally, endothelial-lined blood vessels with extravasated red blood cells (RBCs) and areas of hemorrhage were observed. The overall histopathological features were consistent with a diagnosis of fibroepithelial hyperplasia (Fig. 6).

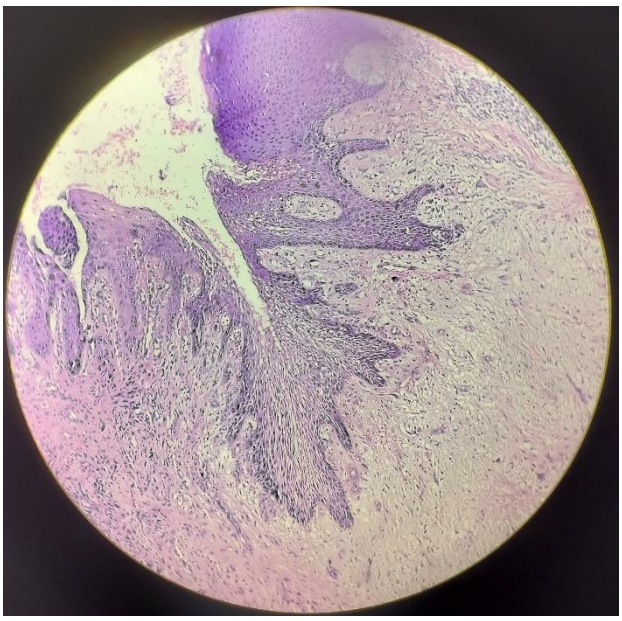

Fig. 6: Histopathological picture showing hyperparakeratinized stratified squamous epithelium with underlying connective tissue stroma showing dense collagen fiber bundles

Discussion

The oral mucosa is continuously exposed to both chemical and mechanical stresses, leading to the development of various mucosal lesions. The incidence of fibroepithelial hyperplasia differs depending on the population examined and the particular etiological influences involved. This lesion is among the most prevalent reactive conditions in the oral cavity, often linked to chronic irritation from factors such as poorly fitting prostheses, plaque accumulation, calculus, and repetitive trauma.

Kfir et al.[10] categorized reactive proliferative lesions into distinct types, including Pyogenic Granuloma, Peripheral Giant Cell Granuloma, Peripheral Ossifying Fibroma, and Focal Fibrous Hyperplasia. Studies on oral biopsies indicate that fibroepithelial hyperplasia accounts for a significant proportion of reactive oral lesions, particularly those affecting the gingiva, buccal mucosa, and tongue.

A review of 30,000 oral biopsies found that nearly 13% were from the gingiva, with a substantial number being fibrous overgrowths rather than true neoplasms.[11,12] It is more common in adults, especially those wearing dentures or having chronic irritation from dental restorations.

Some studies suggest a higher prevalence in females, possibly due to hormonal influences or differences in oral hygiene habits. While fibroepithelial hyperplasia is non-malignant and treatable, its recurrence can occur if the underlying irritant is not removed. Also, if not treated, long standing lesions in the presence of chronic irritation can get converted into neoplasia.[1]

In the early 20th century, the pioneering inventor Dr. William Bovie created an electrocautery device, which was first utilized in the surgical field by Dr. Harvey Cushing on October 1, 1926. Electrocautery, also known as diathermy, operates through alternating current, which facilitates tissue dissection and coagulation without causing damage to surrounding structures. This technique is particularly useful for separating fascial and muscle layers while ensuring effective hemostasis. It is precise, pressure-free, and has become an essential tool for soft tissue management in periodontology, now playing a critical role in contemporary surgical procedures.[13]

The electrosurgical system consists of two key components: the active electrode, which functions as the cutting or coagulating instrument, and the passive electrode, which acts as a return electrode to complete the circuit and direct the radiofrequency signal back to the electrosurgical unit. Active electrodes are designed for both tissue coagulation and incision, and their shapes vary according to their specific application. Needle-like active electrodes are used for precise tissue cutting, while those with a larger surface area at the tip are intended for tissue coagulation.[14]

Fibromas can develop in individuals of any age or gender, although they are more commonly seen in adults. The accumulation of plaque and calculus can exacerbate these lesions. While these hyperplastic growths are typically self-limiting, their impact on both aesthetics and function necessitates surgical removal.

Conclusion

Inflammatory fibroepithelial hyperplasia's exhibit distinct histopathological features while sharing similar clinical and biological behaviour. Surgical removal is the preferred treatment, and addressing underlying causative factors, such as plaque and calculus, is crucial to prevent the recurrence of the lesion.

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