EPULIS FISSURATUM ASSOCIATED WITH LONG-TERM DENTURE IRRITATION: A CASE REPORT AND TREATMENT APPROACH

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ABSTRACT

A 65-year-old male presented with an overgrowth in the upper front teeth region persisting for six months. Clinical examination revealed edentulism in the maxillary jaw and a 3 x1.5 cm elliptical overgrowth in the right maxillary vestibule extending from the canine to the second premolar region. The lesion was coral pink with mild tenderness. A provisional diagnosis of denture epulis was made, and the lesion was excised and sent for histopathological examination. Histopathology revealed stratified squamous para keratinized epithelium with hyperplasia, hyperkeratosis, and elongated rete ridges. The connective tissue stroma exhibited dense interlacing collagen fibers, blood-filled capillaries, chronic inflammatory cells, and extravasated RBCs, with kerato-mucous dystrophy noted. This case report discusses epulis fissuratum associated with long-term denture irritation, detailing the clinical presentation, diagnostic considerations, histopathological considerations, treatment approach, and outcomes. The report underscores the importance of proper denture fit and regular oral examinations in preventing such lesions and maintaining oral health.

Keywords: Epulis fissuratum, Hyperplasia, Kerato-mucous dystrophy, Edentulism, Maxillary overgrowth.

INTRODUCTION

Epulis fissuratum, or denture-induced fibrous hyperplasia, is a benign reactive overgrowth of fibrous tissue caused by chronic irritation from an ill-fitting denture. It manifests as hyperplastic mucosal folds, typically in the mucobuccal fold, leading to

discomfort and difficulty in mastication. The condition arises from continuous mechanical pressure, resulting in mucosal ulceration and fibrous proliferation. Though benign, prolonged trauma may increase carcinoma risk. Treatment involves surgical excision using scalpel, electrosurgery, cryosurgery, or laser therapy, followed by prosthetic correction to prevent recurrence. Ensuring a properly fitting denture post-surgery is essential for healing and minimizing the risk of recurrence.[1]

Case description

A 65-year-old man presented at our tertiary care hospital with the chief complaint of an abnormal growth along the anterior border of his ill-fitting maxillary partial denture, which gradually grew in size over the past 6 months. The denture was fabricated almost 2 years ago. The patient had been suffering from pain and discomfort during mastication for the past 3 months and had not removed the denture for 6 months. An intraoral examination revealed a fibrous mass, had a firm consistency and a smooth texture, measuring about 3cm × 1.5 cm (Image 1). No relevant medical history was noted, and he was not under any medications.

Image1: shows overgrowth in the upper right front teeth region

Differential diagnosis included irritation fibroma, leaflike denture fibroma, benign mesenchymal tumors, and minor salivary gland tumors. Based on the patient's history and intraoral and extraoral clinical examination, a provisional diagnosis of a Denture-induced hyperplasia was made.

The treatment plan consisted of both medical and surgical approaches and after through explanation of the same, written consent form was taken. A surgical procedure followed by isolation of the lesion and anesthesia of the area by bilateral anterior block was performed. Using a no. 15 scalpel blade, the lesion was excised from its base, followed by suturing of the open edges and excessive bleeding was controlled by electrocautery. Postoperative instructions were given and the specimen collected were sent for histopathological examination.

Histopathological analysis demonstrated stratified squamous parakeratinized epithelium with hyperplasia, hyperkeratosis, and elongated rete ridges. In certain areas, the epithelium was thinned due to the proliferation of underlying collagen fibers. The stroma exhibited dense interlacing bundles of collagen fibers interspersed with numerous blood-filled capillaries, chronic inflammatory cells, and extravasated RBCs. Kerato-mucous dystrophy was also noted. These findings confirmed the diagnosis of epulis fissuratum. (Image2)

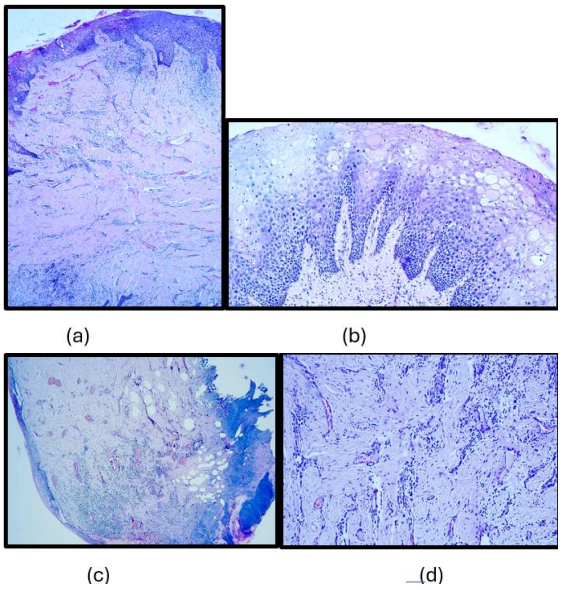

Image 2: A photomicrograph of an H&E-stained section at 4x magnification shows epithelium and connective tissue. At 10x, kerato-mucous dystrophy with thin rete ridges is visible. The epithelium thins due to excessive connective tissue proliferation, featuring collagen fibers, capillaries, and adipocytes. Dense collagen bundles with chronic inflammation are also observed.

DISCUSSION

The case report presents a classic example of epulis fissuratum, a benign oral lesion caused by chronic mechanical irritation from an ill-fitting denture. The condition develops due to continuous low-grade trauma exerted by denture flanges on the oral mucosa, leading to tissue hyperplasia. [2] The present case exemplifies the clinical progression and management of epulis fissuratum, emphasizing the need for both surgical and prosthetic intervention to ensure complete resolution and prevent recurrence.

Clinically, epulis fissuratum manifests as one or more redundant folds of hyperplastic tissue, usually in the vestibular region. [3] It often presents bilaterally, with a firm, smooth, pink or reddish appearance. In some cases, ulceration may occur due to persistent trauma [3]. In this case, the lesion developed along the anterior border of the patient's maxillary partial denture, progressively enlarging over six months, leading to pain and discomfort during mastication. Failure to remove the denture for an extended period further exacerbated the lesion's growth, reinforcing the role of chronic mechanical irritation in its pathogenesis. [4]

Histopathological examination is essential for confirming the diagnosis and ruling out neoplastic changes. [5] Typical findings in epulis fissuratum include epithelial hyperplasia, hyperkeratosis, and stromal proliferation. [6] In this case, the presence of kerato-mucous dystrophy, an uncommon feature, indicated chronic mucosal irritation. This underscores the importance of histopathological evaluation in assessing the extent of tissue changes and ensuring accurate diagnosis.

The standard treatment approach for epulis fissuratum involves surgical excision of the lesion, followed by addressing the underlying causative factor. [7] In this case, the lesion was excised using a scalpel, with electrocautery employed for hemostasis. Postoperative care included antibiotics, analgesics, and wound care instructions to facilitate healing and prevent secondary infection.

Beyond surgical management, prosthetic correction is critical in preventing recurrence. The use of an ill-fitting denture is the primary etiological factor in epulis fissuratum, necessitating either denture relining or replacement to eliminate ongoing mucosal trauma. [8] Proper denture

adaptation and regular follow-up visits help ensure continued comfort and function, reducing the risk of lesion recurrence.

This case highlights several important clinical considerations. Routine oral examinations are crucial, particularly for elderly patients with dentures, to detect poorly fitting prostheses early and prevent complications. Additionally, patient education on appropriate denture maintenance, including regular cleaning, removal, and professional adjustments, is vital in mitigating denture-related oral lesions. Finally, while epulis fissuratum is a benign condition, histopathological confirmation remains an essential step to exclude dysplastic or malignant transformation, particularly in chronic cases with prolonged irritation.

CONCLUSION

The case report effectively demonstrates the clinical presentation, diagnosis, and management of epulis fissuratum. Surgical excision, combined with appropriate prosthetic correction, ensures effective treatment and reduces the risk of recurrence. The case underscores the importance of regular oral examinations, patient education, and proper denture maintenance in preventing such lesions.

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