Surgical Management of Denture Induced Inflammatory Hyperplasia in Anterior Maxilla with Use of Collagen Membrane– A Case Report

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Abstract

Introduction: Any localised swelling of the gingivae may be called an epulis. Epulisfissuratum is an inflammatory hyperplastic growth resembling a benign tumor which occurs due to an ill fitting prosthesis. The swelling is usually a result of a local irritant such as calculus or a poorly adapted margin of a dental restoration or apoorly adapted denture for edentulous patient. **Aim:** This case report describes a 65 year old male patient who presented to us with ahyperplastic growth in maxilla. The purpose of this article is to present a case of epulisfissuratum due to a poorly adaptedprosthesis which was treated using a single surgical procedure forthe excision of the lesion and use of collagen membrane graft for the defect closure.Primary closure tends to roll the lip inward which may decrease the vestibular depth causing decreased retention and stability of the denture. Wounds covered with dressing materials tend to heal faster and better and have lesser contracture compared to the open wound. Treatment of this case was essential because of the masticatory problemsarised by the overgrowth. **Conclusion:** The maintenance of an optimal level of oral hygiene is essential for the preservation of the oral health following the surgical removal of an epulis. Furthermore, an additional benefit following the surgical removal of the overgrowth is improvement of oral health and its resolution will help the patient to have a better fitting dentures.Because of better oral wound healing, surgical treatment is advocated for epulis treatment.

Key words: Epulisfissuratum, ill fitting denture, inflammatory hyperplasia, pre prosthetic surgery

Introduction

Epulisfissuratum is an inflammatory origin pseudo-tumor characterized by fibrous connective tissue hyperplasia. It is most commonly seen in the gingivobuccal region. The most common etiology is by persistent irritation caused by ill fitting dentures.

This proliferation may result due to multiple factors such as alveolar ridge resorption, causing over extension of the denture borders which eventually contributes to chronic irritation to the oral mucosa. It is characterized by slow development of elongated tissue rolls in the muco-buccal fold area to which the denture flange extends.Epulisfissuratumcan be treated conservatively or surgically based on the lesion size.

Case report

A 65-year-old male patient reported to a private clinic with the complaint of overgrowth in his upper front tooth region with no pain associated (figure 1). Patient gave history of being a diabetic for past 10 years and was on medication. He had been wearing ill-fitting denture for past 3 years. Intra-oral examination revealed hyperplastic sessile exophytic growth in the anterior maxilla. The lesion involving the anteriormaxillary mucosa was noticed extending up to the vestibular sulcus. The size of the lesion was approximately 5cm × 2cm. The lesion was covered with non-inflammatory adherent fibrous mucosa. On palpation, the lesion was found to be firm in texture and consistency. The lesion was similar in color to the adjacent mucosa.As the removable prosthesis was ill fitting and the lesion was neither ulcerated nor indurated, clinical diagnosis of denture-induced hyperplasia was suggested.Topical mouthwash with chlorhexidine (0.12%, 4 times per day) was therefore prescribed.Surgical excision combined with collagen graft was planned.

Local anesthesia (lignocaine 2% with adrenaline 1: 80 000) was administered. A partial thickness incision using a scalpeland bladewas performed. The incision followed the extension of the overgrowth. The excision was done in the supra periostealplane (figure 2).Then, the collagen graft was adapted over the surgical site and immobilized using blanket sutures (figure 5).The collagen membrane will help in maintaining the sulcular depth and avoid contracture so that the prosthesis stability is unhindered.The specimen was sent for histopathological examination, confirming the clinical diagnosis ofEpulisfissuratum. Antibiotics and non-steroidal anti-inflammatory drugs were prescribedfor 5 days.
Satisfactory postoperative healing was observed at 2 weeks follow up.

Discussion

Epulisfissuratum, also called as inflammatory fibrous hyperplasia, is primarily a reactive tissue alteration response to poorly adapted removable prosthesis on the vestibular oral mucosa. Also the other contributing factors could be ill-fitting dentures, poor oral hygiene smoking, age-related changes, and systemic conditions are also considered.It is more frequently occurring in the edentulous areas with ill fitting prosthesis. The lesion can occur in varied dimensions which ranges from a few millimeters to several centimeters to involving of the arch. Patient is usually asymptomatic but it may be associated with acute inflammationand ulceration occasionally. Clinically the lesion can present as a soft smooth lesion along the vestibularsulcus with normal or erythematous overlying mucosa adjacent to the denture flange.

The most common mechanisms in the development of this lesion intra orally include reactive hyperplasia. Polizzi B et al described the treatment of a fibrous epulis, the most common type of localized gingival overgrowths, with a Diode Laser. Alveolar bone resorption can occur as a consequence of this lesion that can lead to alterations in the characteristics and dimensions of the jaws. The ridge resorption may lower the muscle attachments making the attachment more prominent and closer to the prosthesis, which may cause decreased stability of the prosthesis.

Treatment of epulisfissuratum can be done in two ways: conservative and surgical.The conservativeapproach is non-invasive. Conventional scalpel,electrocautery, lasers, and liquid nitrogencryosurgery are few methods

used in the surgical technique.Electro-cauterization is used because it ensures hemorrhagecontrol and better post-operative healing.The use of carbon dioxide laser in the excision of the lesionis advantageous as compared to conventional surgery contributing to better hemostasis, minimalpost surgicaldiscomfort and improved healing. Recently, liquid nitrogen cryosurgery has been introduced in minimally invasive dentistry which has an advantage of excellent hemostasis with minimal post-operativeedema and pain.

Primary closuretends to roll the lip inward which may decrease the vestibular depth causing decreased retention and stability of thedenture.Wounds covered with dressing materials tend to heal faster and better and have lesser contracture compared to the open wound. All dressing materials act by forming a barrier between wound and the environment and therefore, they help in preventing bacterial infection and wound dehiscence. These dressings also help to reduce pain and increase the rate of healing. Studies suggests that collagen affects wound healing and it serves as the key component for repair and remodeling of the mucosa. It acts as a scaffold facilitating the infiltration of fibroblasts, macrophages lymphocytes,monocytes to the wound causing increased angiogenesis.

Conclusion

Chronic irritation, ill-fitting prostheses increase the prevalence mucosal lesions. Surgical excision is the definitive treatment. Collagen serves as an important element in wound healing and helps in regulation of multiple types of cells involved in tissue repair and regeneration. We can conclude that use of collagen membranes as dressing in oral mucosadefects is a good substitute of autologous graft. We also suggest use of such dressings in cases of intra oral defects for better healing and decreased post operative pain.The maintenance of an optimal level of oral hygiene is essential for the preservation of the oral health following the surgical removal of an epulis. Furthermore, an additional benefit following the surgical removal of the overgrowth is improvement of oral health and its resolution will help the patient to have a better fitting dentures.Because of better oral wound healing, surgical treatment is advocated for epulis treatment

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Figure 1.Hyper plastic tissue folds

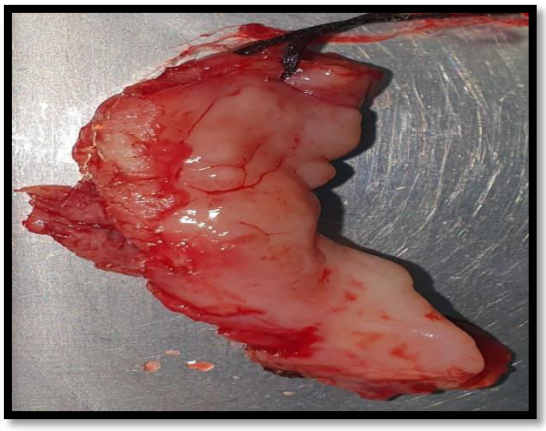

Figure 2. Excision of the overgrowth

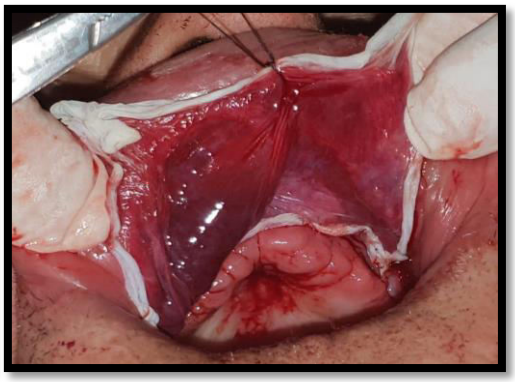

Figure 3Exposure of the underlying connective tissue.Figure 4 Adaptation of collagen membrane.

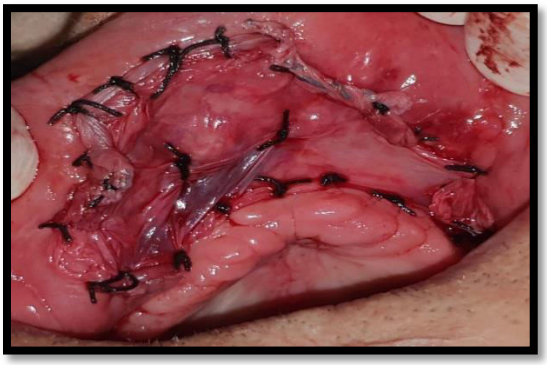

Figure 5 Collagen membrane secured with sutures

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