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Management Of Epulis Fissuratum Due To Complete Denture Using A Scalpel And Electrocautry: A Case Report

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ABSTRACT

Background: Epulis fissuratum is an oral hyperplastic lesion associated with the use of loose and ill-fitting dentures. The clinical picture of epulis fissuratum is a protrusion, sessile, solid consistency, smooth surface, varying in size, has a single or multiple folds, most often multiple folds, the lesion grows involving almost the entire length of the vestibule, ulceration, more often in the anterior maxillary area. Treatment of epulis fissuratum is excision.
Purpose: This case report is expected to add information about the management of epulis fissuratum in patients who wear complete dentures.
Case Presentation: A 67-year-old female patient came to the dentist's office complaining of a lump in the anterior gum area of the upper jaw. The patient wears complete dentures. The patient also experienced similar complaints and had undergone tissue removal surgery about 2 weeks ago. The patient felt pain in the lump. The doctor conducted anamnesis and clinical examination so that the diagnosis of epulis fissuratum could be confirmed. The treatment was surgical excision combined with the use of electrocautery.
Conclusion: The patient was diagnosed with epulis fissuratum caused by long-term denture wear. The patient had previously experienced similar problems. Surgical excision combined with electrocautery demonstrated satisfactory aesthetic and functional results, reduced bleeding during and after surgery, and provided patient comfort without compromising aesthetics.

Keywords: Epulis Fissuratum, Electrocautery, Full Denture

INTRODUCTION

Epulis fissuratum is an oral hyperplastic lesion associated with the use of loose and ill-fitting dentures.[1] This condition refers to a reactive tissue response to excessive mechanical stress caused by ill-fitting dentures.[1] Epulis fissuratum has other names, namely denture-induced hyperplasia, inflammatory fibrous hyperplasia, granuloma fissuratum, and denture epulis.[2] The prevalence of epulis fissuratum is more common in women than in men with an age range of 60-70 years.[1,2] Based on research by Buchner et al., epulis fissuratum is more common in the maxilla than in the mandible.[3]

The etiology of epulis fissuratum is the use of ill-fitting dentures for a long time, trauma, poor oral hygiene, and smoking habits.[1] The clinical picture of epulis fissuratum is a protrusion, sessile, solid consistency, smooth surface, varying size, has a single or double fold, and most often has a double fold, the lesion grows involving almost the entire length of the vestibule,

sometimes ulcerated, more often in the anterior maxillary area.[2,3] Treatment of epulis fissuratum is surgical excision and biopsy to remove the lesion and the possibility of malignancy, remaking the denture which is the main causative factor.[4] Epulis fissuratum can recur if the excision is not optimal and no remaking of the denture is carried out.[1,4]

In this case report, a 67-year-old female patient was diagnosed with epulis fissuratum, caused by the use of sharp dentures in the superior labial frenulum area. The patient had previously experienced a similar condition. The treatment method chosen to eliminate epulis fissuratum can use conventional techniques with a scalpel combined with electrocautery. Electrocautery is a tool with a high-frequency waveform and current, which enters the body tissue so that the surgical process can proceed smoothly and can control bleeding in the patient.[7] Excision of epulis that is not performed properly and thoroughly will allow recurrence.[4] This case report is expected to add information about the management of epulis fissuratum in patients who wear complete dentures.

CASE REPORT

A 67-year-old female patient came to the dentist's office complaining of a lump on her front gum. A similar lump had appeared before and had been removed two weeks earlier. The dentist also advised the patient to have new dentures, but this had not been done. The patient experienced discomfort and pain, as if touching a blunt object. She had tried painkillers, but the pain had not improved. She desired further surgery on the lump.

The doctor performed a history and clinical examination. The results of the history showed the patient was in good condition, with no history of allergies or systemic diseases. Extraoral clinical examination showed the face, eyes, neck, lips, lymphadenopathy, and temporomandibular joint within normal limits. Intraoral examination revealed a single nodular lesion on the gingival mucosa near the superior labial frenulum, approximately 4 mm in diameter, rubbery, pedunculated, the same color as the surrounding mucosa, and painful when wearing the denture. The patient was wearing a complete denture made by a dentist with sharp edges on the labial and buccal flaps and not made anatomically. The denture was also loose, so the dentist made a mesh covering the acrylic plate to achieve good retention.

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Figure 1. Intraoral Clinical Examination

Figure 2. Dentures Worn by Patients

TREATMENT PROCEDURE

After conducting a history and clinical examination, the doctor explained to the patient about the lesion, which was suspected to be epulis fissuratum. Then, the doctor planned treatment in the form of surgical excision and the creation of a new denture. Before the surgery, the doctor obtained informed consent and checked vital signs. The vital signs examination showed the patient was in good condition, with normal blood pressure of 116/80 mmHg, no history of systemic disease, no hypersensitivity reaction to local anesthetics, and the patient was cooperative with the treatment procedure.

The surgeon began the surgical procedure by performing aseptic measures using 10% povidone iodine, then applying topical anesthetic gel to the mucobuccal fold and around the lesion and waiting for approximately 2 minutes. Afterward, the surgeon performed infiltration anesthesia using 2 cc of anesthetic agent on the mucobuccal fold and around the lesion. The surgeon checked the success of the anesthesia by observing the pale color of the mucosa and

the patient's numbness. Next, the surgeon began the excision surgery by clamping the lesion and making incisions on both sides, the upper and lower sides of the lesion, using a scalpel and a no. 15 blade. The lesion was removed down to the base of the stalk. Each time the instrument was changed, the surgical area was irrigated with 0.9% NaCl saline solution. In this case, the patient's bleeding was controlled and not excessive, so suturing was not required. Untidy tissue was smoothed and cleaned using electrocautery.

Figure 3. Tools and Materials Used: (a) Basic Diagnostic Tools (b) Needle Holder (c) Scalpel No. 3 and Blade No. 15 (d) Surgical Tweezers (e) 3cc Syringe (f) Povidone Iodine 10% (g) Topical Anesthetic Gel (h) Pehacain® (i) 0.9% NaCl Saline Solution (j) Electrocautery

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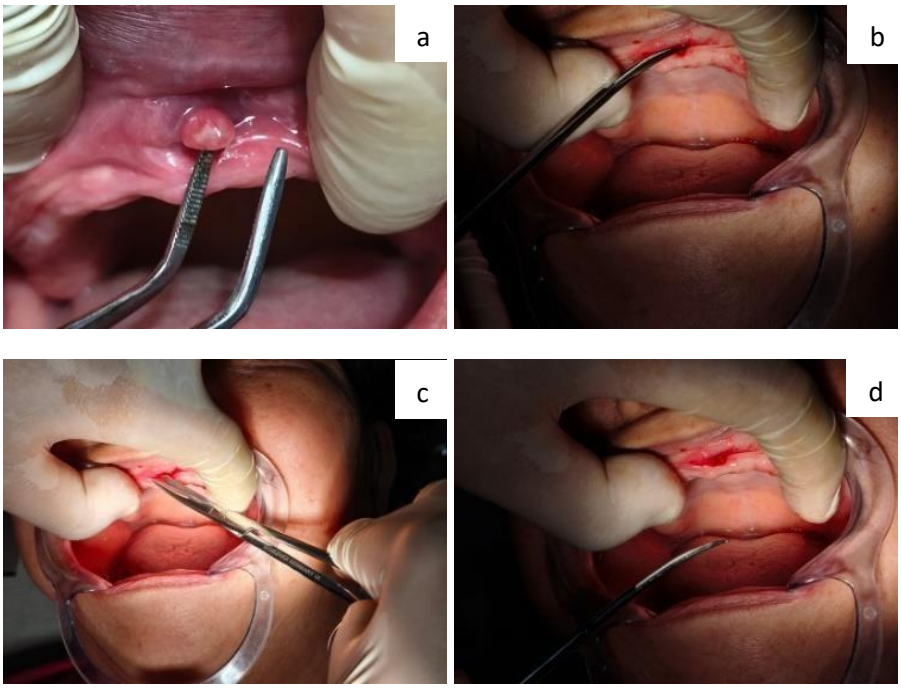

Figure 4. Epulis Fissuratum Excision Surgical Procedure (a) Lesion Before Excision (b) and (c) Excision Procedure (d) Post-Excision and Electrocautery Tissue Smoothing

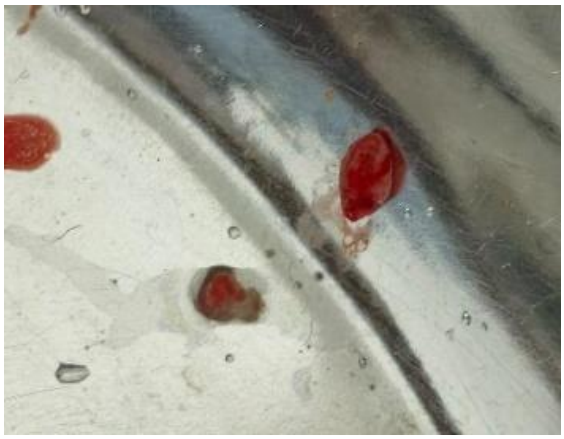

Figure 5. Excised Epulis Fissuratum Lesion

Treatment continues with post-surgical education and advises patients to replace their complete dentures with new ones to avoid tissue irritation, which could trigger the epulis fissuratum to recur. Patients are also advised not to have their dentures made by unprofessional personnel.

DISCUSSION

Epulis fissuratum is also known as inflammatory fibrous hyperplasia, which is a reactive tissue change in response to dentures that do not adapt well to the oral mucosa.[1] This lesion is caused by persistent trauma and irritation, is asymptomatic, and is limited to the tissue around

the denture border in the vestibule, lingual, and palatal areas.[2] Epulis fissuratum occurs in the free mucosa lining the sulcus or mucobuccal fold. With prolonged use of dentures, as well as dentures made without the help of a dentist, the dentures become loose and ill-fitting.[3,4] The anterior region is most often affected by epulis fissuratum because the anterior region tends to be drier and less exposed to saliva.[3]

The etiology of epulis fissuratum is acute or chronic irritation due to ill-fitting dentures that damage the oral mucosa, age, amount and type of saliva, systemic diseases, smoking and chewing habits, poor denture use throughout the day even while sleeping, and poor oral hygiene.[5] In this case, the etiology of epulis fissuratum is caused by wearing loose dentures for a long time and the patient made dentures at a dentist instead of a dentist.

Epulis fissuratum due to dentures occurs at the denture margin, causing a fibro-epithelial response in the denture wearer.[5,6] Epulis fissuratum can occur in the mobile mucosa lining the sulcus or at the junction of the mobile and immobile mucosa.[6] Prolonged denture wear will result in resorption of residual alveolar bone. Small ulcers develop due to excessive pressure from the flank margins of complete dentures. Chronic irritation leads to inflammation accompanied by hyperplastic tissue.[5] Epulis fissuratum can recur. Recurrence can occur in patients who wear loose or ill-fitting dentures, as the newly formed tissue is continually irritated, triggering recurrence of the epulis.[4,5] Poor oral hygiene can lead to infection or irritation, which can trigger recurrence. Tissue excision procedures can cause recurrence of epulis fissuratum if the procedure is not performed thoroughly or leaves residual tissue.[5,6] In this case, the patient experienced recurrence which was possibly caused by loose or ill-fitting dentures and sharp teeth, thus pressing on the gingiva and poor oral hygiene.

Treatment for epulis fissuratum includes surgical excision of the gingiva, followed by removal of irritating factors, and patient education and motivation to maintain oral hygiene.[5,6] In this case, the patient underwent surgical excision to remove the epulis fissuratum lesion, followed by tissue cleaning and smoothing using electrocautery. Electrocautery is a high-frequency, current-emitting device that penetrates the body's tissues to facilitate surgery and control bleeding. Electrocautery has a hot tip, causing tissue coagulation, drying, and necrosis, while also providing a good visual field during surgery.[7]

After the surgical procedure is complete, instruct the patient not to eat or drink for 1 hour after surgery. They should not spit, rinse, or play with the wound area. They should avoid hot, hard, or acidic foods, alcohol consumption, and smoking. They should remind the patient to consume healthy and nutritious foods to aid the healing process. They should clean the surgical area with gauze soaked in warm water. They should also encourage the patient to

maintain oral hygiene. If the patient wears dentures, inform them not to have them made by a dentist, as poorly fitting dentures can cause irritation. They should be instructed to have a follow-up visit one week later and to consult a dentist immediately if any complaints arise.[6] After the excision is complete, the denture should be remade, as the patient had the dentures made by a dentist, not a dentist. This will prevent mechanical trauma and recurrence. Then, correct the occlusion and articulation.[4,5]

In previous dentures, the dentist created a mesh used for retention of the denture to increase stability, resulting in pain similar to rubbing against a blunt object. Re-dentures must pay attention to retention and stabilization, especially in the maxilla. There are several things that must be considered in denture making, such as the denture base must have good and tight contact with the oral tissue to create a natural suction effect (adhesion and cohesion) and utilize atmospheric pressure. In upper dentures, pressure on the soft tissue at the border of the soft and hard palate (posterior palatal seal) can improve retention. The shape and size of the denture base must match the jaw contour to maximize contact area and stability.[8]

CONCLUSION

Based on the history and clinical examination, the patient was diagnosed with epulis fissuratum caused by prolonged use of loose dentures and dentures made by a dentist. The patient had previously experienced similar problems. Treatment consisted of excision of the epulis fissuratum using conventional surgical techniques with a scalpel combined with electrocautery, followed by denture reconstruction. This case demonstrated satisfactory aesthetic and functional results, reduced bleeding during and after surgery, and provided patient comfort without compromising aesthetics.

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