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Tissue Conditioning for Epulis Fissuratum in an Edentulous Patient: A Case Report

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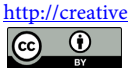


Abstract

Epulis fissuratum is a reactive fibrous hyperplasia commonly associated with the prolonged use of ill-fitting removable dentures. Although benign, this lesion may lead to functional, aesthetic, and prosthetic impairments, thereby complicating oral rehabilitation. Tissue conditioning plays an important role in improving healing outcomes in denture-induced fibrous hyperplasia. In the presence of inflammation, pre-surgical tissue conditioning helps reduce tissue irritation and optimize the surgical environment. Moreover, post-surgical conditioning helps guide wound healing and facilitates the preparation of the supporting tissues for subsequent prosthetic rehabilitation. This work describes the case of a female patient with complete edentulism and an unstable existing denture. Clinical examination revealed localized fibrous hyperplasia secondary to chronic prosthesis-induced irritation. Therapeutic management consisted of a combined approach integrating surgical excision and tissue conditioning, followed by fabrication of new, well-adapted complete dentures. Postoperative outcomes were favorable, with satisfactory tissue healing and marked improvement in denture stability, retention, and overall comfort. This work aims to highlight the importance of early diagnosis of denture-induced lesions. Through a clinical case, it illustrates the indication and relevance of post-surgical tissue conditioning in the management of these conditions. Particular attention to regular follow-up visits remains essential to prevent recurrence.

Subject Areas

Dentistry, Prosthodontic

Keywords

Epulis Fissuratum, Removable Prosthesis, Tissue Conditioning

1. Introduction

Denture-induced hyperplasia (DIH), also known as epulis fissuratum, is a benign, tumor-like proliferation of fibrous connective tissue arising from chronic mechanical irritation caused by ill-fitting complete or partial dentures. This condition predominantly affects middle-aged and elderly individuals, with a higher prevalence reported among women [1] [2].

Its etiology is multifactorial, involving several associated factors such as poor oral and prosthetic hygiene, ill-fitting dentures, vitamin deficiency, and smoking [2] [3].

Clinically, DIH typically presents as a sessile lesion characterized by one or multiple folds of hyperplastic tissue. The surface is often smooth and covered by mucosa that may appear normal or erythematous depending on the degree of inflammation. Lesion size can range from small, localized hyperplastic areas measuring less than 1 cm to extensive folds involving a large portion of the vestibular sulcus [3] [4].

Beyond its morphological features, this lesion may lead to significant functional and psychosocial consequences. Patients frequently report pain and discomfort, impaired mastication, compromised aesthetics, and a reduced overall quality of life [5].

However, the management of such cases remains challenging, as it requires careful therapeutic decision-making between a non-invasive approach [6], such as tissue conditioning [7] and a combined surgical-prosthetic strategy involving excisional surgery of the epulis fissuratum [2] [3].

This case report describes the management of this lesion, with emphasis on its clinical characteristics and the challenges faced during treatment.

2. Clinical Case

A 73-year-old female patient in good general health was referred to the Department of Removable Prosthodontics in Casablanca, Morocco, with complaints of instability in both the maxillary and mandibular dentures. The patient was completely edentulous in both the maxillary and mandibular arches. Her history revealed that the patient had worn her current maxillary and mandibular complete dentures for over two years, with continuous use including nocturnal wear. She was a non-smoker with no systemic diseases or concomitant medications.

Initial intraoral examination revealed diffuse erythematous areas on the maxillary palatal mucosa consistent with denture stomatitis, Newton Type II. This presentation, characterized by a diffuse and homogeneous palatal erythema without papillary or nodular surface changes, is associated with chronic irritation related to prolonged denture wear. Two small hyperplastic lesions were observed on the anterior maxillary vestibule, bilaterally adjacent to the median labial frenum of the maxilla (**Figure 1**).

A hyperplastic lesion was observed on the right anterior buccal region of the mandible. Clinically, it appeared as a folded fibrous mass situated in the anterior

buccal sulcus, extending from the lateral incisor region to the second premolar. On palpation, the lesion was firm, sessile, well-circumscribed, and non-ulcerated, measuring approximately 3 cm at its greatest dimension. The findings were consistent with irritative hyperplasia, most likely attributable to chronic mechanical irritation secondary to denture instability associated with overextension of the denture flange (Figure 2).

Examination of the patient's existing dentures demonstrated mandibular protrusion with anterior reversed occlusion, along with a reduction in vertical occlusal dimension. Notably, occlusal contacts were preserved on the left side, likely attributable to the patient's habitual avoidance of mastication on the lesional side to minimize discomfort (Figure 3).

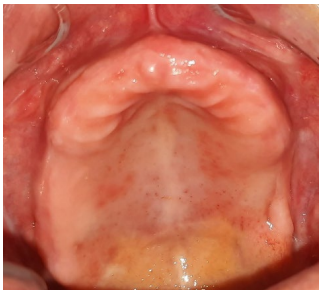


Figure 1. Initial intraoral view of the maxillary arch.

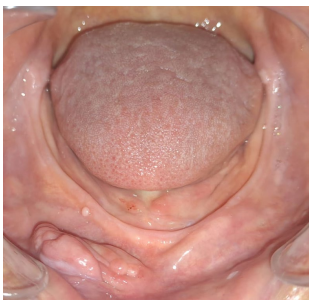


Figure 2. Initial intraoral view of the mandibular arch.

Figure 3. Occlusal view of the patient's existing denture illustrating the inverted occlusal articulation and the association between the mandibular epulis fissuratum and the prosthetic flange.

Panoramic radiographic examination showed no pathological findings, except for moderate resorption of both maxillary and mandibular edentulous ridges.

A differential diagnosis including irritation fibroma, peripheral ossifying fibroma, and squamous cell carcinoma, particularly when lesions display atypical

ulceration or irregular surface characteristics, was considered. However, based on the patient's history and clinical examination, a provisional diagnosis of epulis fissuratum was made.

The management of this case started with patient education and motivation regarding oral and prosthetic hygiene measures. The existing maxillary denture was then adjusted by selectively relieving areas of excessive pressure, followed by tissue conditioning using a soft lining material applied to the fitting surface of the denture. This therapeutic approach led to the healing of the denture stomatitis and the regression of the small buccal vestibular lesion (Figure 4).

Figure 4. Maxillary denture adjustment and tissue conditioning.

Given the extent of the lesion, surgical excision was planned for the mandibular arch, followed by post-surgical tissue conditioning.

Surgical excision of the lesion was performed using a No. 15 scalpel blade. The excision was carried out using an "orange-peel" technique to ensure complete removal of the hyperplastic tissue. Hemostasis was achieved by mechanical compression, and the excised specimen was submitted for histopathological examination, which showed hyperplastic epithelium as well as a fibrous connective tissue, which confirmed the clinical diagnosis and revealed features consistent with epulis fissuratum.

Notably, no sutures were placed in order to preserve vestibular depth and promote healing by secondary intention (Figure 5).

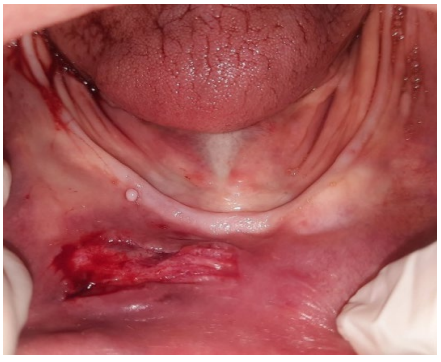


Figure 5. Excision of epulis fissuratum without suturing.

The overextended denture flange was reduced to eliminate the cause of chronic irritation. The mandibular denture was then relined with a tissue conditioner (Soft Liner®) and inserted immediately after surgery into the patient's mouth. The patient was instructed to perform functional movements and was then guided into centric occlusion. Excess material was removed after setting (**Figure 6**). The patient was recalled after 48 hours to assess healing, prosthesis stability, painful areas, discomfort, and occlusion. One week later, the same evaluation was performed and the material was adjusted to further guide the healing process. After 15 days, the tissue conditioner was replaced. The same protocol was repeated until complete healing of the lesion was achieved (**Figure 7**).

Figure 6. Mandibular denture adjustment and tissue conditioning.

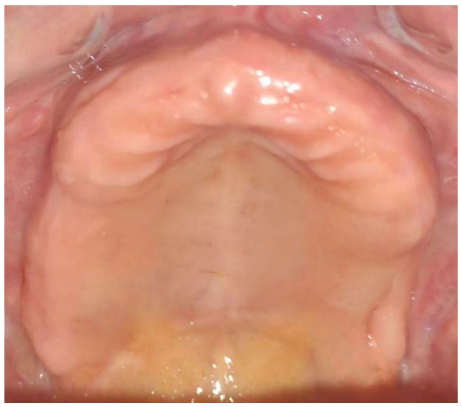
Figure 7. Re-establishment of centric relation and correction of occlusion to improve denture stability.

The patient was instructed to gently clean the relined prosthesis using a cotton cloth or gauze, and to disinfect it in a 0.2% chlorhexidine solution [8].

After five weeks, marked improvement of the maxillary denture-bearing oral mucosa was observed, along with satisfactory healing of the mandibular site, (**Figure 8(a)** and **Figure 8(b)**). These favorable clinical conditions allowed progression to the impression phase and the fabrication of definitive complete dentures.

Prosthetic rehabilitation was carried out according to conventional procedures for complete bimaxillary dentures. The patient expressed complete satisfaction with the aesthetic and functional outcomes. A regular post-prosthetic follow-up protocol was implemented to monitor healing and prevent the risk of epulis fissuratum recurrence. The patient was first evaluated 3 days post-insertion for oc-

clusal equilibration and hygiene reinforcement, followed by a clinical check-up at 7 days. Subsequent scheduled follow-up visits were performed at 1, 3, and 6 months to monitor denture stability, mucosal adaptation, and occlusal harmony. Thereafter, annual clinical follow-up was planned. Concurrently, comprehensive patient education was provided, highlighting strict denture hygiene and the absolute cessation of nocturnal wear to ensure adequate mucosal rest (**Figure 9(a)** and **Figure 9(b)**).



(a)

(b)

Figure 8. Post-Treatment intraoral view showing: (a) Improved condition of the maxillary supporting tissues; (b) Satisfactory healing of the mandibular site.

(a)

(b)

Figure 9. Final clinical outcome. (a) Occlusal view after prosthesis insertion; (b) Patient's smile showing satisfaction.

3. Discussion

Ill-fitting dental prostheses are a commonly known cause of chronic trauma to the oral mucosa, leading to lesions of varying severity [5]. Among these, epulis fissuratum is one of the most frequently reported reactive lesions associated with denture use. It is characterized by a fibrous hyperplastic reaction of the mucosa, generally resulting from prolonged irritation caused by prosthetic flanges that are overextended, underextended, or poorly adapted. The lesion is usually asymptomatic, which explains the delayed consultation and the development of extensive lesions [3]. Management of this condition is essential prior to any prosthetic rehabilitation, both to restore healthy tissues and to eliminate persistent traumatic factors [3] [4] [7].

The optimal prosthetic treatment for complete edentulism largely depends on the quality of the tissues intended to support the future prosthesis. Taking impressions of altered or deformed tissues may lead to the fabrication of an unstable prosthesis, which can further aggravate the compromised tissue condition and accelerate underlying bone resorption. The role of tissue conditioning is to restore the histological, morphological, and physiological properties of all tissues in contact with the bearing surfaces and borders of a complete denture, thereby creating more favorable conditions for supporting the new prosthesis and restoring function. Tissue conditioning also plays an important role in re-establishing an appropriate vertical dimension of occlusion [9].

Indeed, chronic irritation of such lesions is considered a potential predisposing factor for malignant transformation, underscoring the importance of early and appropriate treatment [5].

The management of prosthesis-induced epulis fissuratum in completely edentulous patients requires both elimination of etiological factors and appropriate therapeutic intervention [5]. While tissue conditioning may be effective for small or early lesions [3] [7], surgical excision remains the treatment of choice for extensive lesions with a significant fibrous component [2] [3].

In this case, tissue conditioning alone was sufficient for the maxillary lesion, whereas a combined therapeutic approach was required for the mandibular lesion because of the size and fibrous nature of the hyperplasia [3] [7]. Prior to surgery, the existing prosthesis was adjusted by reducing the overextended flange, thereby

eliminating the source of chronic irritation without the need for an interim prosthesis. After surgery, the same prosthesis was relined with a tissue conditioning material and used to promote healing by secondary intention, thereby preserving vestibular depth and ensuring patient comfort. This approach enabled effective management of the lesion while promoting optimal tissue healing and functional rehabilitation [3].

Several surgical techniques have been described for the management of epulis fissuratum, including conventional scalpel excision, electrocautery, laser therapy, and cryosurgery [3] [10] [11]. When excision with a scalpel is followed by primary closure with sutures, a reduction in vestibular depth and denture-bearing surface may occur, potentially compromising prosthesis retention and stability. To overcome this limitation, alternative approaches such as submucosal vestibuloplasty, grafting procedures, and healing by secondary intention have been proposed [2] [3] [10]. In the present case, no sutures were placed intentionally in order to preserve vestibular depth. Healing by secondary intention, guided by a properly adjusted prosthesis and tissue conditioning, allowed satisfactory tissue repair while maintaining favorable anatomical conditions for future prosthetic rehabilitation [3] [12].

The success of treatment using post-surgical tissue conditioning depends on the patient's commitment to maintaining good oral hygiene and attending regular follow-up appointments to monitor healing. The patient must adhere to the treatment protocol, as lining materials may rapidly lose their beneficial physical properties. With prolonged use, particularly in cases of poor oral hygiene, these materials can become mechanically irritating to the mucosa, promote the accumulation of denture plaque on their surface, and exacerbate the symptoms of denture stomatitis [8].

Postoperative prosthetic rehabilitation should include either relining of the existing denture or fabrication of a new prosthesis adapted to the post-surgical anatomy [4] [5]. Accurate impression making and careful border molding are essential to minimize mucosal trauma and reduce the risk of recurrence [13].

Regular follow-up, ideally on an annual basis, is recommended, as the development of epulis fissuratum is often gradual and may go unnoticed by the patient [13].

4. Conclusion

Early and individualized management of prosthesis-induced epulis fissuratum, guided by the specific indications of each technique, is essential for achieving favorable outcomes. This approach promotes optimal tissue healing, preserves the buccal anatomy, and ensures successful prosthetic rehabilitation.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Baharvand, M., Mortazavi, H., Khalighi, H. and Jafari, S. (2016) Epulis Fissuratum in the Soft Palate: Report of a Case in a Very Rare Location. *Dental Hypotheses*, **7**, 67-69. https://doi.org/10.4103/2155-8213.183798

[2] Habibou Ibrahim, A., Merzouk, N. and Abdelkoui, A. (2022) Prosthetic and Surgical Management of a Sizeable Epulis Fissuratum: A Case Report. *Pan African Medical Journal*, **41**, Article 49. https://doi.org/10.11604/pamj.2022.41.49.31339

[3] El Assraoui, K., Oubbaih, A., Kaoun, K. and Bellemkhannate, S. (2023) Management of Denture-Induced Hyperplasia. *European Journal of Dental and Oral Health*, **4**, 23-26. https://doi.org/10.24018/ejdent.2023.4.2.235

[4] Patil, V.A., Parveen, R. and Surve, P. (2019) A Case Report on Epulis Fissuratum. *Journal of Oral Health and Community Dentistry*, **13**, 59-61. https://doi.org/10.5005/jp-journals-10062-0049

[5] Mekayssi, R., Taleb, B., Merzouk, N. and Benfdil, F. (2021) The Prosthetic Management of a Case of Epulis Fissuratum by a Novel Technique. *Odovtos—International Journal of Dental Sciences*, **23**, 27-32.

[6] Iegami, C.M., Tamaki, R. and Neto, P.T. (2017) A 5-Week Non-Surgical Approach Towards Denture Induced Hyperplasia. *The Open Dentistry Journal*, **11**, 151-154. https://doi.org/10.2174/1874210601711010151

[7] El Arbi Tahiri Alaoui, M., Rokhssi, H. and Bentahar, O. (2025) Inflammatory Fibrous Hyperplasia between Surgery and Tissue Conditioning: A Case Report. *International Journal of Surgery Case Reports*, **130**, Article 111261. https://doi.org/10.1016/j.ijscr.2025.111261

[8] Dorocka-Bobkowska, B., Medynski, D. and Prylinski, M. (2017) Recent Advances in Tissue Conditioners for Prosthetic Treatment. A Review. *Advances in Clinical and Experimental Medicine*, **26**, 723-728. https://doi.org/10.17219/acem/62634

[9] Le Joyeux, J. (1993) Mise en condition en prothèse amovible. Masson.

[10] Işeri, U., Özçakır-Tomruk, C. and Gürsoy-Mert, H. (2009) Treatment of Epulis Fissuratum with CO_2 Laser and Prosthetic Rehabilitation in Patients with Vesiculobullous Disease. *Photomedicine and Laser Surgery*, **27**, 675-681. https://doi.org/10.1089/pho.2008.2325

[11] Karimi, A., Sobouti, F., Torabi, S., Bakhshandehfard, A., Amirian, A., Shariati, M., *et al.* (2016) Comparison of Carbon Dioxide Laser with Surgical Blade for Removal of Epulis Fissuratum. A Randomized Clinical Trial. *Journal of Lasers in Medical Sciences*, **7**, 201-204. https://doi.org/10.15171/jlms.2016.35

[12] Khalifa, C., Bouguezzi, A., Sioud, S., Hentati, H. and Selmi, J. (2021) An Innovative Technique to Treat Epulis Fissuratum: A Case Report. *SAGE Open Medical Case Reports*, **9**, 1-5.

[13] Bilhan, H., Geckili, O., Ergin, S., Erdogan, O. and Ates, G. (2013) Evaluation of Satisfaction and Complications in Patients with Existing Complete Dentures. *Journal of Oral Science*, **55**, 29-37. https://doi.org/10.2334/josnusd.55.29