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CASE REPORT

Comprehensive management of factitious epulis: a report of two cases

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ABSTRACT

Background: Epulis is a reactive inflammatory hyperplasia of the gingiva, commonly resulting from chronic trauma such as ill-fitting dentures, dental calculus, or self-inflicted injuries. Although benign, persistent irritation can contribute to recurrence or potential malignant transformation. This report presents two cases of epulis caused by unusual self-inflicted injuries-habitual use of a toothpick and scissors-to highlight the importance of patient education and proper oral hygiene in preventing recurrence.

Case Presentation: Case 1: A 23-year-old male presented with a recurrent gingival enlargement between teeth 41 and 42, despite previous scaling and gingivectomy. Examination revealed a well-defined, reddish, firm nodule. Radiographic evaluation showed no alveolar bone involvement. The patient admitted to habitual toothpick use for food debris removal. Surgical excision and histopathology confirmed fibrous epulis. The patient was advised to stop using toothpicks and switch to dental floss. No recurrence was noted over six months.

Case 2: A 43-year-old male complained of a gingival lump that grew rapidly due to a habit of prying tartar with scissors. Clinical and radiographic assessments showed a sessile nodule without bone involvement. Surgical excision was performed, and histopathology confirmed granulomatous epulis. The patient was educated on the risks of self-inflicted trauma and advised to seek professional dental care. No recurrence was observed over six months.

Conclusion: Chronic self-inflicted injuries can lead to reactive gingival hyperplasia, emphasizing the need for patient education and behavioral modification. Eliminating chronic irritation and maintaining proper oral hygiene are crucial in preventing recurrence and potential malignant transformation.

Keywords: Gingival Diseases (MeSH); Gingival Hyperplasia (MeSH); Comprehensive Dental Care (MeSH); Radiography, Dental (MeSH); Pathology (MeSH); Gingival lump (Non-MeSH); Gingivectomy (MeSH).

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INTRODUCTION

Epulis, as reactive inflammatory hyperplasia localized to the gingiva, is one of the most common benign lesions in the oral cavity. The term is derived from the Greek "epoulis" and is a specific clinical term meaning a growth on the gums.[1] The term refers to the site of the neoformation rather than a specific pathological entity. These enlargements could conceal a variety of pathological entities. As a result, the diagnosis cannot be based solely on clinical impressions.[2] The main etiologic factor of these lesions is generally thought to be from chronic trauma such as ill-fitting dentures, calculus, overhanging dental fillings, tissue injury due to acute or chronic biting, or fractured teeth. Chronic injury can cause inflammation, thereby stimulating the formation of granulation tissue. Most lesions occur at the periphery of the oral mucosal surface. In inflammatory hyperplasia, cortical bone erosion is rare; an aggressive process or malignancy should be suspected. If chronic irritants are eliminated as the lesion is excised, most hyperplasia will not recur, confirming its benign nature.[3,4]

When treating an enlarged lesion, the main consideration is eliminating any chronic irritation that might cause the growth, preventing recurrence, identifying whether it is benign, and differentiating it from a possible malignant neoplasm. Suppose the chronic irritation comes from habitual or inadvertent self-inflicted injuries; in that case, the intervention includes counselling, behaviour modification, and recall appointments to re-evaluate if there were any relapses in habits.[5]

The two clinical cases presented describe the enlarged lesions in two patients with unusual chronic self-inflicted injury, namely using a toothpick and scissors tip to poke food debris and tartar, which caused persistent gingival lump, how to establish a definitive diagnosis, and comprehensive management. These injuries are frequently observed in patients who do not recognize the potential risks associated with their behaviour. These actions, often perceived as harmless, can lead to chronic irritation and, in some cases, progress to lesions with malignant potential if left unaddressed. The patients had consented to the treatments for publication.

CASE REPORT

Case 1: A 23-year-old male visited Prof. Soedomo Dental Hospital, Universitas Gadjah Mada. The patient complained of an enlarged right lower front gum for the previous four months. The patient had done scaling and root planning treatment followed by a gingivectomy one month earlier, but within two weeks, the gums swelled again in the same place. It was later discovered that the patient had a habit of picking up food debris using a

Table I: Timeline of diagnosis, treatment, and follow-up in case 1

Time	Information
Four months prior	Enlarged gum
One month prior	Scaling and root planning treatment
Two weeks prior	Enlarged gum recurred
First visit	Panoramic radiograph, education to stop bad habit
Second visit One week later	Surgical excision, histopathological examination
Re-evaluation Six months later	Clinical assessment, no recurrence

Table II: Timeline of diagnosis, treatment, and follow-up in case 2

Time	Information
Five months prior	Bad habit of using the tip of the scissors to remove tartar, enlarged gum
Two month prior	Biting the enlarged gum, the lump grew rapidly
First visit	Periapical and panoramic radiograph, scaling and root planning, education to stop bad habit
Second visit One week later	Surgical excision, histopathological examination
Re-evaluation Six months later	Clinical assessment, no recurrence

toothpick between the area.

Intraoral clinical examination showed a single nodule between teeth 41 and 42 measured 5 mm x 8 mm with a reddish color, well-defined, regular edges, firm consistency, and no bleeding. A panoramic radiograph was carried out to identify bone or tooth resorption, to rule out malignancy. The panoramic radiograph showed a radiolucent area with a rounded diffuse border between teeth 41 and 42 without any involvement of the alveolar bone. Fibrous epulis as the working diagnosis was established.

The patient was instructed that he must stop using toothpicks to clean food debris because this habit could trigger the complaint to occur again and might change the nature from benign to malignant. Rather than using a toothpick, the patient was taught to use dental floss. Subsequently, surgical excision was performed. The obtained tissue was firm, measuring 1.1 x 0.6 x 0.3 cm, and brownish white in color. Histopathological examination showed a complex squamous epithelium-lined tissue, some with acanthosis and irregular elongation of the rete ridges. The submucosa was filled with the proliferation of blood vessels and fibroblasts, with many lymphocytes, neutrophils, and plasma cells. No signs of malignancy were found. Thus, the final diagnosis of the lesion was fibrous epulis. The patient was evaluated for the next six months, showing no recurrence, and admitted that he had stopped using toothpicks.

In this case (1), a gingival nodule between teeth 41 and 42 was identified (Figure 1) with no alveolar bone involvement on radiography (Figure 2). Histopathology confirmed fibrous epulis, showing squamous epithelium with inflammatory infiltration (Figure 3). After surgical excision and habit cessation, the lesion did not recur over six months (Figure 4). Table I shows the timeline of the patient's treatment.

Case 2: A 43-year-old male visited Prof. Soedomo Dental Hospital, Universitas Gadjah Mada. The patient complained of a lump in his gums between his lower right front teeth five months earlier. The patient had a habit of prying the tartar with the tip of the scissors until it bleeds. For the past two months, the patient had been trying to get rid of this lump by biting it, but it was growing rapidly.

Intraoral clinical examination showed

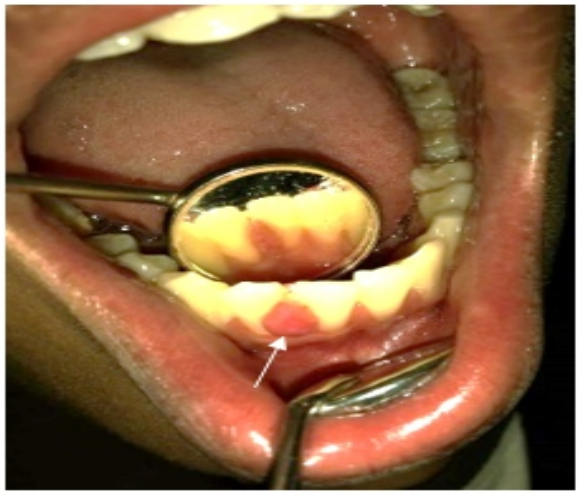

Figure 1: The nodule located between teeth 41 and 42 (white arrow)

Figure 2: Panoramic radiograph showing no involvement of the alveolar bone between 41 and 42 (black arrow)

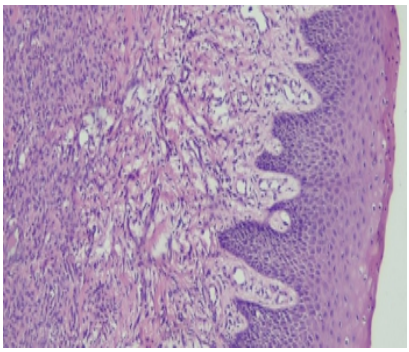

Figure 3: Microscopic examination showed complex squamous epithelium-lined tissue with acanthosis and irregular elongation of the rete ridges (H&E, 40x). The submucosa filled with the proliferation of blood vessels and fibroblasts, with many lymphocytes, neutrophils, and plasma cells.

poor oral hygiene, missing tooth 41, and a single, sessile nodule at the interdental of teeth 31 and 42, measuring 1 cm long and 1.2 cm wide, well-defined, soft consistency, painless to palpation, slightly reddish than the surrounding tissue and smooth surface. Periapical and panoramic radiographs examinations were performed before surgical excision to help determine whether bone or tooth resorption was indicating a malignant tendency. Both radiographs showed a radiolucent area with a diffuse border of rounded shape around the root of tooth 31, which extended to the alveolar crest. There was migration on teeth 31 and 42 without the involvement of the alveolar bone.

The patient had scaling and root planning done to improve oral hygiene before surgical excision. Histopathological examination showed that the connective tissue was lined with partially ulcerated complex squamous epithelium. The stroma was myxomatous with a proliferation of blood vessels arranged like lobules, lined with monomorphic endothelium, surrounded by extravasation of erythrocytes filled with PMN leukocytes, histiocytes, and lymphocytes. The final diagnosis was granulomatous epulis.

The patient was instructed to stop using scissors or other sharp tools to remove his tartar. Sharp tools are not going to be successfully removed tartar; unsafe and may cause bleeding, ulceration, trigger the lump's recurrence, and turn it cancerous. The patient was advised to visit a dentist to have scaling and root

Figure 4: Evaluation photo showing no recurrence six month after excision.

planning regularly. The patient was evaluated for the next six months, showing no recurrence, and admitted that he had no longer pried his gums with scissors.

Figures 5-8 illustrate the clinical and radiographic findings, histopathological examination, and post-treatment outcome, showing a nodule between teeth 31 and 42 (Figure 5), radiographic evidence of tooth migration without alveolar bone involvement (Figure 6), microscopic findings of a partially ulcerated complex squamous epithelium with a myxomatous stroma and proliferating blood vessels (Figure 7), and a six-month post-excision evaluation confirming improved oral hygiene with no recurrence (Figure 8). Table II shows the timeline of the patient's treatment.

DISCUSSION

The occurrence of masses over the gingiva may be due to different types of underlying pathological changes. Gingival enlargements are classified as inflammatory, drug-induced enlargements associated with systemic diseases or conditions, neoplastic enlargements, and false enlargements based on etiologic factors and pathologic changes. Reactive lesions are the most common neoformations that lie beneath the so-called "epulis" and may fall into one of the following groups of reactive lesions: fibrous epulis, granulomatous epulis, and peripheral giant cell granuloma. They are not the result of a neoplastic process but rather an exaggerated repairing and remodeling response to a stimulus.[2,6]

Fibrous epulis is the commonest variety, frequently represented as a firm, pink, un-inflamed mass. It grows from below the free gingival margin or interdental papilla. It may be pedunculated or sessile and, most often painless. Treatment involves excision, and the source of irritation must be removed to prevent recurrence.[6,7] This described well with the lesion in the first case and explained why the mass recurred even after the gingivectomy, probably because the patient did not receive enough information to stop the bad habit.

Granulomatous epulis or pyogenic granuloma presents in adults as a reddish or bluish smooth-surfaced mass, often ulcerated, and grows from beneath the gingival margin. This lesion is highly vascular, compressible, and could bleed readily. The mass may penetrate between the teeth and present as a bilobular (buccal and lingual) mass connected through the col area, but bone erosion is uncommon.[6] The easily bleeding and slightly reddish color mass on the second case is suited with granulomatous epulis.

The gingival enlargements were found in the anterior region in these two cases. The prevalence of epulis is higher in the anterior region than in the posterior because of teeth malposition often found in the anterior region thus hard to maintain good oral hygiene, saliva pool is high in calcium and phosphate making formation of calculus in this area.[8]

A radiologic examination should be performed if an abnormal enlargement of the jaw is suspected to document the extent and imaging characteristics of the lesion. A panoramic image frequently precedes this examination to identify the location and extent of the lesion, followed by intraoral periapical or occlusal images to assess the effects of the abnormality on the teeth and surrounding structures. Benign neoplasms grow slowly as their cell population expands. As a result, benign neoplasm borders are well-defined. The internal structure may be entirely radiolucent or radiopaque, or it may contain both radiolucent and radiopaque areas. As a benign neoplasm grows, it may displace nearby structures.[9] Although both radiograph interpretations showed diffuse borders, none showed alveolar bone destruction. The lesion in the first case did not cause structure migration, while in the second case caused teeth 31 and 42 to migrate. Through radiograph interpretation, it can be concluded that

Figure 5: The nodule located between teeth 31 and 42

(A) (B)

Figure 6: **(A)** Periapical and **(B)** panoramic radiographs showed migration of teeth 31and 42 (white arrow) without the involvement of the alveolar bone

both lesions were benign.

The management of epulis can use general or local anesthesia, depending on the size and location of the lesion. The epulis was removed extensively in the tumor mass and curettage the bone to prevent a recurrence. In the first patient, it was estimated that recurrence happened even though the patient had scaling and gingivectomy because of inadequate lesion removal.

The main reason for these lesions was that both patients had bad habits, and the previous operators did not pay enough attention to tell them to stop. Soft tissue injuries caused by oral habits are commonly referred to as factitious oral injuries. These injuries can manifest as a variety of lesions, most commonly as a single ulcer or nodular lesions. Intervention is necessary for patients with oral habits to prevent negative effects on their health. Counselling and follow-up appointments to see if the patient's habits relapse are possible interventions.[5,10] Even after the surgical procedure, the success of treatment relies upon the elimination of the bad habit. After giving enough information and periodically follow-up, both patients showed no recurrence after six months post-operation.

CONCLUSION

The reported cases of fibrous and granulomatous epulis highlight the role of inadequate prior treatment, patient education, and chronic self-inflicted injuries in lesion development and recurrence. Fibrous epulis resulted from previous inadequate procedures and lack of education, while granulomatous epulis was aggravated by harmful self-inflicted habits, accelerating lesion growth. Although epulis is generally benign, persistent irritation can increase the risk of recurrence and potential malignant transformation. Proper treatment, patient education, and elimination of chronic irritants are essential to prevent recurrence and ensure long-term oral health.

REFERENCES

1. Umapathy T PKB, Nagarathna C, Amruta B, Susan K. Reactive Localized Inflammatory Gingival Hyperplasia in Primary Dentition: A Report of Rare Case and Comprehensive Management. Acta Scientific Dent Sci 2019;3(7):116-9. https://doi.org/10.31080/ASDS.2019.03.0581

2. Costa P, Peditto M, Marcianò A, Barresi A, Oteri G. The "Epulis" Dilemma. Considerations from Provisional to Final Diagnosis. A Systematic Review. Oral. 2021;1(3):224-35. https://doi.org/10.3390/oral1030022

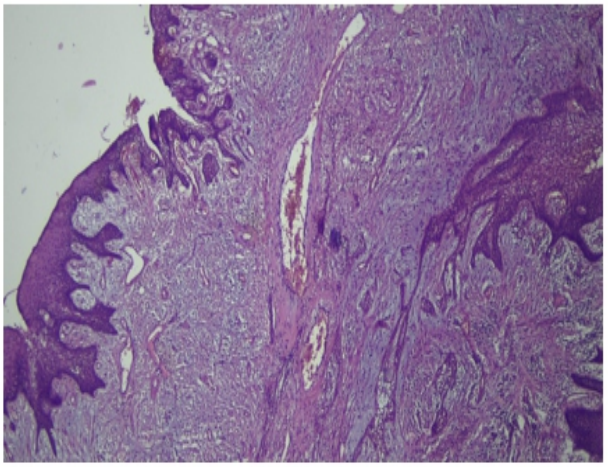

Figure 7: Microscopic examination showed partially ulcerated complex squamous epithelium. The stroma was myxomatous with a proliferation of blood vessels(H&E, 40x).

Figure 8: Evaluation photo showing improved oral hygiene and no recurrence six months after excision

3. Glick M, Greenberg MS, Lockhart PB, Challacombe SJ. Burket's Oral Medicine. John Wiley & Sons, Inc. 2021. ISBN: 9781119597742. https://doi.org/10.1002/9781119597797
4. Ghom AG, Ghom SA. Textbook of Oral Medicine: Jaypee Brothers Medical Publishers Pvt. Limited; 2014.
5. Osaghae IP, Azodo CC, Egwoum B. Factitious oral injuries in dental patients and recall appointment default. Int J Med Biomed Res 2017;6(2):86-91. http://dx.doi.org/10.14194/ijmbr.6.2.4
6. Agrawal AA. Gingival enlargements: Differential diagnosis and review of literature. World J Clin Cases 2015;3(9):779-88. https://doi.org/10.12998/wjcc.v3.i9.779
7. Dabholkar J, Vora K, Sikdar A. Giant fibrous epulis. Indian J Otolaryngol Head Neck Surg 2008;60(1):69-71. https://doi.org/10.1007/s12070-008-0022-0
8. Zhao N, Yesibulati Y, Xiayizhati P, He YN, Xia RH, Yan XZ. A large-cohort study of 2971 cases of epulis: focusing on risk factors associated with recurrence. BMC Oral Health 2023;23(1):229. https://doi.org/10.1186/s12903-023-02935-x
9. White SC, Pharoah MJ. White and Pharoah's Oral Radiology: Principles and Interpretation: Elsevier Health Sciences, USA; 2018. ISBN: 9780323543835
10. Boras VV, Brailo V, Skrinjar I, Juras VD, Alajbeg I, Rotim Z, et al. Self-Inflicted Oral Mucosal Injuries. Res J Pharmaceut Biol Chem Sci 2017;8(2):1824-29.

AUTHORS' CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

AFA: Identification and management of the case, drafting the manuscript, critical review, approval of the final version to be published

RSG & SF: Diagnosis of the case, drafting the manuscript, critical review, approval of the final version to be published

AH & MR: Identification and management of the case, drafting the manuscript, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest, whether financial or otherwise, that could influence the integrity, objectivity, or validity of their research work.

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DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request

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