

Reactive Hyperplastic Lesion Mimicking Malignancy on the Tongue Secondary to Dental Prosthesis-Related Irritation: Case Report and Literature Review

Priyadharsini Nataraj¹, Rameshkumar Annasamy², Rajkumar Krishnan³, Indumathi N⁴

ABSTRACT

Background: Lesions of the lateral border of the tongue warrant special attention due to the site's high risk for developing premalignant and malignant changes. Chronic irritation from faulty prostheses, sharp teeth, or occlusal trauma frequently contributes to the development of reactive hyperplastic lesions, which can clinically mimic more serious pathology.

Case Presentation: A 36-year-old female presented with a persistent growth on the right lateral border of the tongue for two months, with a history of intermittent episodes in the past. Clinical examination revealed two swellings with surface ulceration, in association with an ill-fitting fixed partial denture in relation to 46 and a sharp cusp of 48. Surgical excision of the lesion was performed.

Investigations: Histopathological analysis demonstrated hyperplastic filiform papillae with basilar hyperplasia, without evidence of epithelial dysplasia or malignant transformation.

Diagnosis: A final diagnosis of reactive hyperplasia of the tongue secondary to chronic prosthetic and occlusal trauma was established.

Management: The lesion was excised, occlusal adjustments and prosthetic corrections were undertaken, and the patient was placed on regular follow-up to monitor healing and exclude recurrence.

Conclusion: Persistent lesions of the tongue should not be overlooked, even when clinical features appear benign. Elimination of etiological factors, surgical excision, histopathological confirmation, and long-term follow-up are pivotal in management to reduce the risk of malignant transformation.

Keywords: Oral Mucosa, Hyperplasia, Prosthesis-Related Complications, Chronic Irritation

INTRODUCTION

Lesions of the tongue represent a significant portion of oral mucosal pathologies and often pose a diagnostic challenge due to their diverse etiologies. While many reactive lesions arise secondary to local mechanical irritation, habits, or prosthetic factors, persistent growths on the tongue require careful clinical evaluation and histopathological confirmation to exclude premalignant and malignant changes.¹ The lateral border of the tongue is particularly prone to chronic trauma-induced changes and is considered a high-risk anatomical site for the development of oral squamous cell carcinoma.²

Chronic irritation from sharp teeth, faulty restorations, or ill-fitting prostheses can act as cofactors in perpetuating mucosal injury, stimulating hyperplastic or dysplastic changes.³⁻⁶ Although benign reactive proliferations are common, persistent or recurrent lesions necessitate thorough assessment, as they may mimic or coexist with potentially malignant disorders.⁷ Early recognition and management are therefore essential to prevent unfavourable outcomes.

This case report highlights a rare presentation of persistent hyperplastic growth on the lateral tongue induced by

Department and Institution Affiliation: Department of Oral Pathology, SRM Dental College, Ramapuram, Chennai.

Corresponding Author: Dr. Priyadharsini Nataraj, Reader, Department of Oral Pathology, SRM Dental College, Ramapuram, Chennai. Mail: drdharsiniraj@gmail.com

How to cite the article: Nataraj P., Annasamy R., Krishnan R., N Indumathi. Reactive Hyperplastic Lesion Mimicking Malignancy on the Tongue Secondary to Dental Prosthesis-Related Irritation: Case Report and Literature Review. Oral Maxillofac Pathol J 2026; 17(2); 334-336.

Source of Support: Nil

Conflict of Interest: None

chronic prosthetic irritation, emphasising the need for timely diagnosis and intervention to mitigate the risk of malignant transformation.⁸

CASE PRESENTATION

A 36-year-old female reported with a chief complaint of a persistent growth on the right lateral border of the tongue

for the past two months. The patient gave a history of an earlier similar lesion at the same site, which occurred intermittently but resolved spontaneously. In the current episode, the lesion persisted and was associated with the appearance of two adjacent swellings near the initial site. The patient also reported occasional surface ulceration of the growth.

Significant dental history revealed an ill-fitting fixed partial denture in relation to tooth 46 and a sharp cusp on tooth 48. The prosthesis had been replaced one year prior, and coronoplasty was performed on 48; however, the lesion reappeared two months ago. The persistent nature of the lesion prompted surgical excision and histopathological evaluation.

CLINICAL FINDINGS

On intraoral examination, a solitary growth was noted on the right lateral border of the tongue, accompanied by a nearby secondary swelling. The surface of the lesion appeared ulcerated in areas. The growth was firm in consistency, non-tender, and sessile in attachment. The surrounding mucosa showed evidence of chronic irritation, likely due to the opposing sharp cusp of 48 and prosthetic interface with 46. No induration or cervical lymphadenopathy was detected on palpation. (Fig. 1)

INVESTIGATIONS (HISTOPATHOLOGY):

The excised specimen was submitted for histopathological analysis. Microscopic examination revealed hyperplastic parakeratotic stratified squamous epithelium. The epithelium is thrown in to numerous finger like projections. This resembled the histopathology of papillae of tongue (Fig. 2a). The epithelium also shows features like basilar hyperplasia, acanthosis and hyperparakeratosis. The connective tissue shows chronic inflammatory cells, chiefly lymphocytes and increased vascularity close to the epithelium. The deeper section shows muscle tissue and dense collagen bundles. (Fig. 2b)

DIAGNOSIS:

Based on the clinical presentation and histopathological evaluation, a final diagnosis of reactive hyperplasia of the

tongue associated with chronic prosthetic and occlusal trauma was established.

MANAGEMENT:

The lesion was surgically excised in toto, and local irritants were addressed. The offending sharp cusp of tooth 48 was re-shaped, and corrective measures for the ill-fitting prosthesis in relation to 46 were initiated. The patient was counselled about the role of chronic irritation in oral mucosal pathology and the importance of eliminating predisposing factors to prevent recurrence. Regular follow-up visits were scheduled to ensure satisfactory healing and to monitor for any recurrence or suspicious changes, given the high-risk location of the lesion. The patient did not show any recurrence in one year follow up.

DISCUSSION:

The tongue, particularly the lateral border, is a site of high clinical concern due to its vulnerability to chronic trauma and its well-established predilection for the development of precancerous and cancerous lesions.^{9,10} Reactive hyperplastic lesions of the oral mucosa are relatively common and are usually the consequence of chronic irritation from mechanical, chemical, or functional factors. Ill-fitting prostheses, malpositioned or sharp teeth, and restorations with defective margins are well-recognised triggers for such reactive proliferations.^{11,12} In the current scenario ill fitting margin of prosthesis in relation to 46 contributed to one of the swellings and the sharp cusp of 48 and recurrent irritation from that resulted in a similar swelling posteriorly. Clinically, these lesions may present as localised swellings with occasional ulceration, often mimicking more sinister pathologies. This underscores the importance of histology in differentiating benign hyperplastic changes from dysplasia or early carcinoma.¹²

Histopathological examination in the present case revealed elongated and hyperplastic filiform papillae associated with basilar epithelial hyperplasia, without cytological atypia or evidence of epithelial dysplasia. Despite the absence of overt

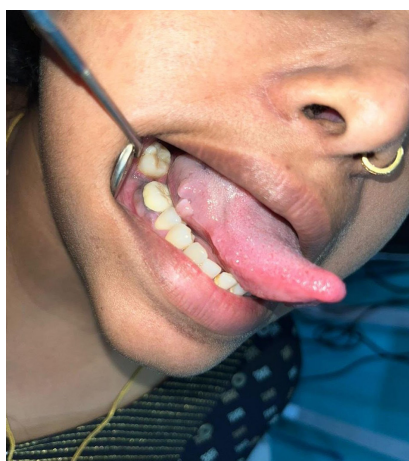


Fig. 1: Swelling on the right lateral border of the tongue

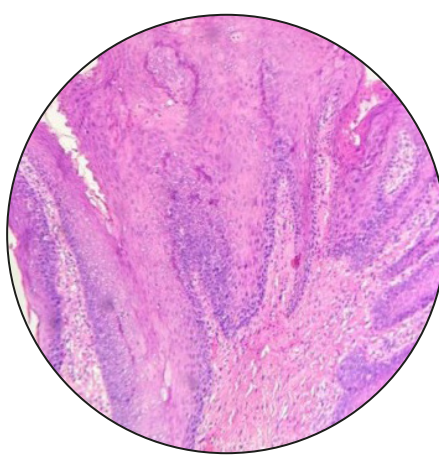


Fig. 2a: Showing finger like projections of hyperplastic epithelium

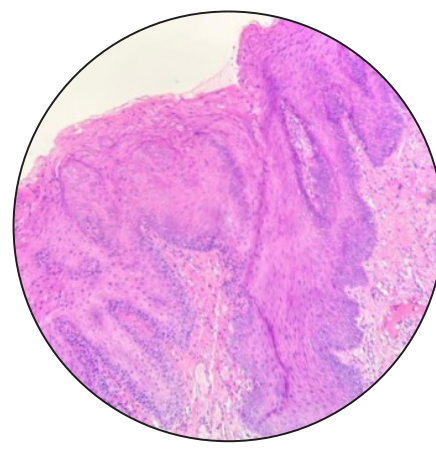


Fig. 2b: Epithelium demonstrating basilar hyperplasia, acanthosis and hyperkeratosis

pre-malignant histological features, the persistent and recurrent nature of the lesion warrants careful clinical consideration, particularly in view of its anatomical location. The lateral border of the tongue is widely recognised as a high-risk site for the development of oral squamous cell carcinoma because of its relatively thin, non-keratinised mucosal covering, rich vascularity, and frequent exposure to mechanical irritation during mastication and speech.^{13,14}

Repeated functional trauma in this region may result in continuous epithelial injury and repair, creating a micro-environment characterised by chronic inflammation, increased cellular proliferation, and enhanced epithelial turnover. Persistent inflammatory stimuli can induce the release of cytokines, reactive oxygen species, and other mediators capable of causing oxidative stress and DNA damage, thereby contributing to genomic instability over time.^{13,14} Furthermore, chronic mucosal irritation has been suggested to act as a cofactor in oral carcinogenesis by facilitating the progression of genetically susceptible epithelial cells toward malignant transformation. Although trauma alone is not considered an independent etiological factor for oral squamous cell carcinoma, its synergistic role in promoting carcinogenic change in predisposed tissues has been increasingly emphasised in the literature.^{13,14}

In the present case, the recurrent clinical behaviour of an otherwise benign lesion highlights the importance of long-term surveillance and periodic reassessment, especially when lesions occur in high-risk anatomical sites. Careful follow-up is essential to monitor for any clinical or histopathological alterations suggestive of dysplastic progression or early malignant transformation.

The current case emphasises several important clinical points. Firstly, any persistent or recurrent lesion should not be dismissed as innocuous, even in the absence of alarming features such as induration or lymphadenopathy. Secondly, the elimination of etiological factors such as sharp cusps or faulty prostheses is fundamental in management, as surgical removal of the lesion without addressing the irritants may predispose to recurrence.^{15,16} Thirdly, long-term follow-up is invaluable, as it allows for early detection of any changes suggesting malignant transformation.¹⁶

Similar reports in the literature have highlighted the diagnostic overlap between reactive hyperplastic lesions and potentially malignant disorders. While many cases remain benign, the clinical challenge lies in differentiating them reliably and instituting timely intervention.^{8,1} This emphasises the principle of treating all persistent tongue lesions with suspicion to guide clinical practice.

CONCLUSION

Persistent lesions of the tongue, particularly along the lateral border, should always be approached with caution due to their risk of mimicking or transforming into malignant lesions. This case highlights the importance of thorough clinical

examination, elimination of chronic local irritants, and the indispensable role of histopathology in establishing a definitive diagnosis. Early recognition, appropriate surgical intervention, and close follow-up are essential to prevent recurrence and to safeguard against malignant transformation. Clinicians must remain vigilant and adopt a proactive approach in managing even seemingly benign persistent oral mucosal growths.

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