

Chronic Traumatic Buccal Ulcer Secondary to a Buccally Displaced Maxillary Third Molar: A Case Report and Review of the Literature

Dr. Saraswathi Gopal. K¹, Dr. Thaneja.R²

¹Department of Oral Medicine and Radiology, Meenakshi Academy of Higher Education and Research, Chennai, Tamilnadu, India

²Department of Oral Medicine and Radiology, Meenakshi Academy of Higher Education and Research, Chennai, Tamilnadu, India

Abstract: *Traumatic ulcers are among the most common ulcerative lesions of the oral cavity and usually result from persistent mechanical irritation caused by sharp cusps, fractured restorations, or ill-fitting prostheses. However, ulceration secondary to a buccally displaced maxillary third molar is rarely reported and may clinically resemble an oral potentially malignant disorder (OPMD) or early oral squamous cell carcinoma, posing a diagnostic challenge. We report the case of a 32-year-old man who presented with a painful, non-healing ulcer on the left buccal mucosa of one week's duration. Clinical examination revealed a solitary oval ulcer measuring approximately 1.5 × 1.0 cm, covered by yellowish-white slough with surrounding erythema, located directly opposite a buccally displaced left maxillary third molar (tooth 28) that caused repeated friction during mastication. Considering the patient's history of smokeless tobacco use, oral squamous cell carcinoma and other chronic ulcerative lesions were included in the differential diagnosis. A provisional diagnosis of chronic traumatic ulcer was established, and the offending tooth was extracted, followed by symptomatic management and close clinical follow-up. Significant healing was observed within one week, with complete resolution of the lesion, confirming the traumatic etiology and eliminating the need for biopsy. This case highlights the importance of careful clinical examination, identification and elimination of local traumatic factors, and timely follow-up, while emphasizing that ulcers persisting beyond two weeks after removal of the irritant require histopathological evaluation to exclude malignancy and other chronic ulcerative disorders.*

Keywords: Traumatic ulcer, buccal mucosa, maxillary third molar, buccally displaced tooth, chronic oral ulcer

1. Introduction

Traumatic ulcers are among the most frequently seen ulcerative lesions in oral medicine, arising when persistent mechanical, chemical, thermal or electrical injury disrupts the oral epithelium. Mechanical trauma is by far the commonest mechanism and is usually linked to sharp or fractured teeth, defective restorations, malposed teeth, orthodontic appliances, ill-fitting dentures, or habits such as cheek or tongue biting [1–4]. These lesions can occur at any age and at several intraoral sites, with the tongue, buccal mucosa and labial mucosa most often affected because of their proximity to the dentition. They typically appear as solitary, tender ulcers covered by a yellowish-white fibrinous base and rimmed by an erythematous halo. When the traumatic stimulus is not removed, healing stalls and the lesion can take on a chronic appearance that mimics other benign or malignant ulcerative disease [2, 5, 6].

Mechanistically, repeated disruption of the epithelium triggers an ongoing inflammatory response that impedes normal regeneration, leading to fibrin deposition and delayed healing. Although most traumatic ulcers resolve within one to two weeks once the cause is removed, persistent lesions need careful evaluation, since they may clinically resemble oral potentially malignant disorders, traumatic ulcerative granuloma with stromal eosinophilia (TUGSE), or oral squamous cell carcinoma (OSCC) [1, 2, 7].

Distinguishing a simple traumatic ulcer from other causes of chronic oral ulceration is not always straightforward. Infective causes (tuberculosis, syphilis, deep fungal infection), immune-mediated disease (recurrent aphthous stomatitis,

pemphigus vulgaris, mucous membrane pemphigoid, oral lichen planus) and neoplastic lesions such as OSCC can all present with overlapping features, so an accurate diagnosis rests on a thorough history, careful examination, identification of any local traumatic factor, and structured follow-up after treatment [1,8,9].

OSCC merits particular attention because it often presents as a persistent, non-healing ulcer with indurated, irregular margins, particularly at high-risk sites such as the lateral tongue, floor of mouth and buccal mucosa, especially in patients who use tobacco or alcohol. Any ulcer persisting beyond two weeks after a suspected traumatic cause has been removed should therefore be biopsied to exclude malignancy [1, 7, 12].

TUGSE is a further important differential, given its clinical resemblance to both traumatic ulcers and OSCC. Trauma is believed to be an initiating factor, but TUGSE tends to follow a more protracted course and is usually confirmed histologically by its characteristic eosinophil-rich infiltrate extending into the underlying connective tissue and muscle [7, 11].

Most published chronic traumatic ulcers are attributed to fractured teeth, sharp cusps, retained roots, defective restorations or poorly fitting prostheses; ulceration secondary to a buccally displaced maxillary third molar is rarely reported, and overlooking such an unusual cause risks delayed diagnosis or unwarranted investigation [3, 9].

We describe a chronic traumatic ulcer of the left buccal mucosa attributable to a buccally displaced maxillary third molar in a young man with a history of smokeless-tobacco use.

Volume 15 Issue 7, July 2026

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

www.ijsr.net

The lesion clinically mimicked an oral potentially malignant disorder but resolved fully after extraction of the offending tooth, reinforcing the value of careful clinical examination, prompt removal of local traumatic factors, and structured follow-up when managing persistent oral ulceration.

2. Case Presentation

A 32-year-old man attended the Department of Oral Medicine and Radiology complaining of pain and an ulcer on the inner aspect of his left cheek of about a week's duration. He described a gradual onset accompanied by a burning sensation and discomfort while chewing and speaking; the pain was localised, constant, and worse with mastication, particularly on the left side. There was no fever, weight loss, dysphagia, or bleeding from the lesion.

His medical history was unremarkable, with no systemic illness, prior hospitalisation, long-term medication use, or known drug or food allergy. He reported using smokeless tobacco two to three times a day for several years, with no history of smoking or alcohol use. There was no family history of oral cancer or other relevant hereditary disease.

Extraoral examination showed no facial asymmetry, swelling, sinus tract or skin change, and the submandibular and cervical lymph nodes were non-palpable and non-tender bilaterally. Mouth opening and temporomandibular joint movement were normal.

Intraorally, oral hygiene was fair with mild generalised plaque accumulation. The left buccal mucosa showed a solitary, oval ulcer measuring roughly 1.5×1.0 cm, covered by a yellowish-white pseudomembranous slough with a surrounding erythematous halo, situated along the occlusal plane directly opposite the maxillary left third molar (tooth 28). The adjacent mucosa was mildly inflamed, without diffuse induration or satellite lesions (Figure 1).

On palpation, the ulcer was tender with a soft to mildly indurated base; its margins were well defined and non-everted, it did not bleed or scrape away on manipulation, and there was no purulent discharge. Closer inspection of the adjacent dentition revealed a buccally displaced maxillary left third molar with its buccal cusp projecting prominently toward the cheek mucosa, and repeated contact between the malpositioned tooth and the mucosa was observed during mandibular movement- consistent with chronic mechanical irritation as the cause of the ulcer.

Based on these findings, a provisional diagnosis of chronic traumatic ulcer secondary to a buccally displaced maxillary third molar was made. Given the history of smokeless-tobacco use and the lesion's persistence, differentials included OSCC, TUGSE, major aphthous ulcer and chronic infective ulceration; nonetheless, the clear spatial relationship between the ulcer and the offending tooth favoured a traumatic cause. A panoramic radiograph confirmed the buccally displaced maxillary left third molar with no associated periapical or osseous pathology and no evidence of cystic change or bone destruction (Figure 2). As the clinical picture pointed strongly to mechanical trauma, biopsy was deferred initially, with the

plan to proceed if the ulcer failed to resolve after the traumatic factor was eliminated.

After informed consent, the offending maxillary left third molar was extracted under local anaesthesia. The patient was advised on meticulous oral hygiene, avoidance of spicy or abrasive food, discontinuation of smokeless tobacco, and use of prescribed analgesics and topical ulcer medication, with written postoperative instructions and review scheduled at one week.

At the one-week review, the patient reported complete relief of pain and considerable improvement in oral function; examination showed marked reduction in ulcer size with healthy granulation tissue and re-epithelialisation. On subsequent review, the buccal mucosa had healed completely with no residual induration, ulceration or scarring (Figures 3). This prompt, complete resolution after extraction confirmed the diagnosis of chronic traumatic ulcer and removed the need for biopsy or further invasive work-up.

The patient was advised to undergo periodic oral examination and was counselled on tobacco cessation and on seeking early evaluation should any future oral ulcer persist beyond two weeks.



Figure 1: Preoperative intraoral photograph showing a traumatic ulcer on the left buccal mucosa adjacent to a buccally displaced maxillary left third molar



Figure 2: Panoramic radiograph demonstrating the buccally displaced maxillary left third molar



Figure 3: Complete healing of the left buccal mucosa following elimination of the traumatic factor

3. Discussion

3.1 Etiopathogenesis and Clinical Features

Traumatic ulcers arise when persistent mechanical, chemical, thermal or electrical injury disrupts the oral epithelium, with chronic mechanical trauma- from fractured teeth, sharp cusps, defective restorations, malposed teeth, orthodontic appliances or ill-fitting prostheses- being the dominant mechanism. Ongoing irritation impairs epithelial regeneration and sustains inflammation, so chronic ulceration develops whenever the causative factor is not removed [1–4].

Because the oral mucosa is continually exposed to functional forces during chewing, swallowing and speech, sites in close contact with the teeth- the tongue, buccal mucosa and labial mucosa- are particularly prone to such injury. Fitzpatrick et al. noted that traumatic ulcers usually present as solitary, fibrin-covered lesions with an erythematous rim, though chronic lesions can lose this typical appearance and closely resemble potentially malignant or malignant disease, creating real diagnostic difficulty [1].

In this patient, the ulcer developed directly opposite a buccally displaced maxillary third molar, establishing a clear anatomical link between the lesion and its mechanical cause. While malpositioned third molars are a common finding in clinical practice, ulceration arising specifically from a buccally displaced maxillary third molar is seldom reported; most documented traumatic ulcers instead involve sharp cusps, fractured teeth, retained roots or defective restorations rather than an ectopically positioned molar [3, 5].

At a tissue level, repeated injury activates both innate and adaptive inflammatory pathways: disruption of epithelial integrity is followed by fibrin deposition, neutrophil infiltration, macrophage activation and release of pro-inflammatory mediators such as interleukin-1 β , interleukin-6 and tumour necrosis factor- α . These mediators sustain local inflammation and delay re-epithelialisation until the mechanical stimulus is removed, which is why eliminating the cause- rather than symptomatic treatment alone- remains both diagnostic and therapeutic [2, 4].

Clinically, these ulcers cause localised pain and tenderness, particularly during chewing or speech, and present with a yellowish-white fibrinous base and an erythematous margin; mild induration from chronic inflammation may also be

present and should not, by itself, be taken as evidence of malignancy [1,6].

3.2 Clinical Course and Comparison with Published Cases

The healing pattern in this case strongly supported a traumatic aetiology: marked symptomatic improvement was evident within a week of extraction, with complete healing on subsequent review. This mirrors reports by Rosa et al., Sonar et al. and Apriasari, all of whom documented full resolution of chronic traumatic ulcers once the underlying mechanical irritant was removed, underlining that identifying and eliminating the cause is more reliable than symptomatic treatment alone [4, 5, 3].

Several other reports describe comparable lesions arising from different sources of trauma. Rosa et al. described a chronic traumatic ulcer that closely resembled OSCC owing to its prolonged course and mild induration, which healed fully once the irritant was removed [5].

Sonar et al. reported a sharp-tooth-related traumatic ulcer that initially raised suspicion of malignancy but resolved completely within two weeks of conservative management, emphasising thorough intraoral examination as the most useful tool for distinguishing traumatic ulcers from malignant lesions [3].

Ouaabbou et al. described a tongue ulcer mimicking OSCC because of its irregular, persistent appearance; here biopsy was needed to exclude malignancy before the lesion healed after the traumatic source was removed, illustrating that biopsy may still be warranted when diagnostic uncertainty remains despite elimination of local irritants [8].

Nelonda and Setiadhi reported a chronic traumatic tongue ulcer initially suspected to be OSCC because of its persistence and induration, which resolved with conservative treatment and removal of the traumatic factor- a reminder that careful reassessment before biopsy can spare some patients unnecessary surgery [10].

Manfredi et al. likewise described buccal ulceration from chronic mechanical irritation that healed quickly once the cause was eliminated, reinforcing that identifying local trauma is fundamental to managing persistent oral ulcers [6].

What distinguishes the present case is the unusual source of trauma- a buccally displaced maxillary third molar rather than a sharp cusp, fractured tooth or defective restoration. This widens the recognised range of dental factors capable of producing chronic traumatic ulceration and highlights the value of assessing tooth position, not just cusp sharpness or restoration integrity, during intraoral examination.

3.3 Differentiating Oral Squamous Cell Carcinoma

OSCC is the most important diagnosis to exclude in any patient with a chronic, non-healing oral ulcer; it accounts for roughly 90% of oral malignancies and commonly presents as a persistent ulcer with indurated, irregular margins, contact bleeding and progressive growth, particularly at the lateral

tongue, floor of mouth and buccal mucosa in patients with long-standing tobacco or alcohol exposure [12, 13].

Given this patient's chronic smokeless-tobacco use, the index of suspicion for OSCC was appropriately high. However, several features favoured a benign traumatic process: the ulcer's location directly opposite a malpositioned, frictional tooth; the absence of cervical lymphadenopathy, fixation, spontaneous bleeding or progressive enlargement; and, most tellingly, complete healing shortly after the offending tooth was removed, which obviated the need for biopsy. Fitzpatrick et al. observed that ulcers showing rapid resolution after a traumatic stimulus is eliminated are far more likely to be traumatic than malignant [1].

Even so, trauma and malignancy can coexist, and chronic irritation may mask or delay the diagnosis of early OSCC by creating a falsely reassuring impression of a benign lesion. Any ulcer persisting beyond two weeks after the suspected traumatic cause has been removed should therefore still be biopsied [1, 3].

3.4 Differentiating TUGSE and Other Chronic Ulcers

TUGSE is an uncommon, benign lesion marked by persistent ulceration and a dense eosinophil-rich infiltrate extending into deeper connective tissue and muscle; although trauma is often an initiating factor, the lesion runs a more protracted course and can mimic OSCC both clinically and histologically [7,11]. TUGSE typically presents as a solitary ulcer with raised or rolled margins and variable induration, most often on the tongue, followed by the buccal mucosa and lips; spontaneous resolution is uncommon, and biopsy is usually required for diagnosis, with histology showing ulcerated epithelium overlying granulation tissue rich in eosinophils, lymphocytes, macrophages and atypical mononuclear cells [7].

By contrast, the present patient healed completely soon after the mechanical irritant was removed, making TUGSE unlikely; the absence of persistent induration, progressive growth or delayed healing further supported a conventional traumatic ulcer, consistent with Dhanrajani and Cropley's observation that lesions failing to heal after removal of a traumatic stimulus should be biopsied to distinguish TUGSE from malignant disease [7].

Other infective and immune-mediated causes of chronic ulceration- deep fungal infection, tuberculosis, syphilis, pemphigus vulgaris, mucous membrane pemphigoid, erosive oral lichen planus and major aphthous stomatitis- should also be kept in mind, particularly in immunocompromised patients or where multiple lesions, vesiculobullous change or systemic features coexist [2, 9].

In this case, the absence of constitutional symptoms, vesiculobullous lesions, multiple ulcers, skin involvement or relevant systemic history reduced the likelihood of these conditions, and the clear anatomical relationship between the ulcer and the displaced third molar, together with full healing after extraction, confirmed a localised traumatic cause.

3.5 Clinical Significance

This case reinforces several practical points. Every chronic oral ulcer warrants systematic assessment for local traumatic factors before invasive investigation is pursued. Anatomical variations such as a buccally displaced third molar should be recognised as a possible source of chronic mechanical irritation, since dental practitioners often focus on caries, periodontal disease or obvious mucosal change while overlooking subtle variation in tooth position. Eliminating the traumatic stimulus followed by short-interval review remains the most dependable way to confirm a traumatic diagnosis, and clinicians should maintain a low threshold for biopsy whenever healing fails within two weeks, especially in patients with tobacco exposure or other recognised risk factors for OSCC.

The patient's chronic smokeless-tobacco use is itself clinically relevant, since tobacco exposure raises the risk of oral potentially malignant disorders and OSCC; clinicians should therefore avoid attributing every ulcer in a tobacco user to trauma alone and should reassess carefully after the traumatic factor is removed, reserving biopsy for lesions that fail to heal completely [1,7].

3.6 Strengths and Limitations

The principal strength of this report is its documentation of an unusual cause of chronic traumatic buccal ulceration- a buccally displaced maxillary third molar- with a clear cause-and-effect relationship demonstrated by complete healing after extraction, alongside a structured comparison with contemporary literature.

Its main limitation is the absence of histopathological confirmation, since biopsy was not indicated once complete clinical resolution occurred; while this reflects accepted practice for traumatic ulcers that heal promptly, microscopic correlation would have added further documentation. As a single-patient report, its findings are also not generalisable, and larger case series or multicentre studies are needed to establish the true frequency of traumatic ulceration associated with malpositioned third molars

3.7 Future Perspectives

Future work should examine the prevalence of oral mucosal trauma related to ectopically positioned third molars and identify features predictive of delayed healing. Prospective comparisons of conservative management versus early surgical intervention in similar cases could help standardise diagnostic and therapeutic protocols, while greater clinician awareness of this uncommon mechanism may reduce unnecessary biopsies and support timely management of persistent oral ulceration.

4. Conclusion

Chronic traumatic ulcers are a common finding in oral medicine, but those caused by a buccally displaced maxillary third molar are distinctly uncommon and can pose a diagnostic challenge by closely resembling an oral potentially malignant disorder or OSCC. This case underlines the importance of

meticulous intraoral examination, careful correlation between the lesion and adjacent dentition, and identification of local traumatic factors before invasive diagnostic procedures are undertaken.

Complete resolution of the ulcer after extraction of the offending tooth confirmed the diagnosis of chronic traumatic ulcer and demonstrated that removing the causative factor remains the cornerstone of management. Even so, a high index of suspicion should be maintained in patients with established risk factors such as tobacco use, and failure of an ulcer to heal within two weeks after removal of the traumatic stimulus should prompt histopathological evaluation to exclude OSCC, TUGSE and other chronic ulcerative disorders.

Oral Pathol Oral Radiol. 2018;125(6):582-590. doi:10.1016/j.oooo.2018.03.011.

- [13] Speight PM, Farthing PM. The pathology of oral cancer. Br Dent J. 2018;225(9):841-847. doi:10.1038/sj.bdj.2018.1023.

References

- [1] Fitzpatrick SG, Cohen DM, Clark AN. Ulcerated lesions of the oral mucosa: clinical and histologic review. Head Neck Pathol. 2019;13(1):91-102. doi:10.1007/s12105-019-00985-4.
- [2] Schemel-Suárez M, López-López J, Chimenos-Küstner E. Oral ulcers: differential diagnosis and treatment. Med Clin (Barc). 2015;145(11):499-503. doi:10.1016/j.medcli.2015.03.025.
- [3] Sonar PR, Panchbhai A, Kaur G, Jain M, Singh A, Thomas T. Chronic traumatic ulcer: a case report. Cureus. 2024;16(5):e60774. doi:10.7759/cureus.60774.
- [4] Apriasari ML. The management of chronic traumatic ulcer in oral cavity. Dent J (Majalah Kedokt Gigi). 2012;45(2):68-72.
- [5] Rosa DE, Hapid MH, Hidayat W. Non-healing chronic traumatic ulcer, an entity that can resemble other chronic ulcers. Int Med Case Rep J. 2023;16:585-590. doi:10.2147/IMCRJ.S430356.
- [6] Manfredi M, Mureddu M, Mancini C, Vescovi P. Case report: oral ulceration of buccal mucosa. Oral Dis. 2024;30(2):70-72.
- [7] Dhanrajani P, Cropley PW. Oral eosinophilic or traumatic ulcer: a case report and brief review. Natl J Maxillofac Surg. 2015;6(2):237-240. doi:10.4103/0975-5950.183875.
- [8] Ouaabbou H, Bahbah S, Chbicheb S. Traumatic ulcer of the tongue mimicking a malignant lesion: a case report. Int J Surg Case Rep. 2023;109:108460. doi:10.1016/j.ijscr.2023.108460.
- [9] Gilvetti C, Porter SR, Fedele S. Traumatic chemical oral ulceration: a case report and review of the literature. Br Dent J. 2010;208(7):297-300. doi:10.1038/sj.bdj.2010.295.
- [10] Nelonda R, Setiadhi R. Management of chronic traumatic ulcer mimicking oral squamous cell carcinoma on the tongue. Dent J (Majalah Kedokt Gigi). 2018;51(2):76-79.
- [11] Ficarra G, Kaban LB, Hansen LS. Traumatic ulcerative granuloma with stromal eosinophilia (Riga-Fede disease and related lesions): review of the literature and report of a case. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 1997;83(5):601-605. doi:10.1016/S1079-2104(97)90187-7.
- [12] Warnakulasuriya S. Clinical features and presentation of oral potentially malignant disorders. Oral Surg Oral Med