Kerala Journal of ENT and Head & Neck Surgery | CASE REPORT | Volume 5 | Issue 1 Jan-Jun 2026

Deep Lingual Abscess Involving Extrinsic Tongue Muscles Without Visible Swelling: A Diagnostic and Airway Challenge

Nithin Mohan[1], Davis Thomas Pulimoottil[1], Akhila P C[1], Ramiya Ramachandran Kaipuzha[2]

1. Department of ENT, Al Azhar Medical College and Super Specialty Hospital, Thodupuzha, Kerala, India;
2. Department of Otorhinolaryngology, Jahra Hospital, Al Jahra, Kuwait*

Published on 30th June 2026

Corresponding Author: Dr. Nithin Mohan
Department of ENT, Al Azhar Medical College and Super Specialty Hospital, Ezhalloor P.O., Thodupuzha, Idukki District, Kerala - 685605
Phone: 9400635735 Email: nithinmohankedaram@gmail.com

ABSTRACT

Lingual abscesses are rare infections that may present without overt mucosal swelling, particularly when involving deep extrinsic tongue musculature. These atypical cases pose significant diagnostic and airway management challenges.

Case report: A 54-year-old male presented with fever, odynophagia, and painful tongue movements without visible swelling. Contrast-enhanced computed tomography (CECT) revealed a deep lingual abscess involving the extrinsic muscles. The patient underwent transoral surgical drainage and was treated with intravenous antibiotics, resulting in rapid clinical improvement.

Conclusion: A high index of suspicion, supported by prompt imaging, is critical for diagnosing deep lingual abscesses. Early surgical intervention prevents airway compromise and ensures favorable outcomes.

Keywords: Tongue; Abscess; Diagnosis; Computed Tomography; Drainage

*See End Note for complete author details

Cite this article as: Mohan N, Pulimoottil DT, Akhila PC, Kaipuzha RR. Deep Lingual Abscess Involving Extrinsic Tongue Muscles Without Visible Swelling: A Diagnostic and Airway Challenge. Kerala Journal of ENT and Head & Neck Surgery. 2026 Jun 30;5(1):34–7.

INTRODUCTION

Lingual abscesses are uncommon infections of the tongue, typically manifesting with pain, swelling, dysphagia, and systemic symptoms.[1] The tongue's robust vascularity, mobility, and saliva-mediated immunity confer natural resistance to infection, rendering deep-seated abscesses particularly rare. When infections localize within the deep extrinsic muscles, such as the genioglossus or hyoglossus, the absence of surface swelling can obscure diagnosis, increasing the risk of airway compromise.[2] This case report describes a rare presentation of a deep lingual abscess without external swelling, highlighting the critical role of imaging, differential diagnosis, and timely management. Drawing on recent literature, we discuss strategies to optimize outcomes in this challenging clinical entity.

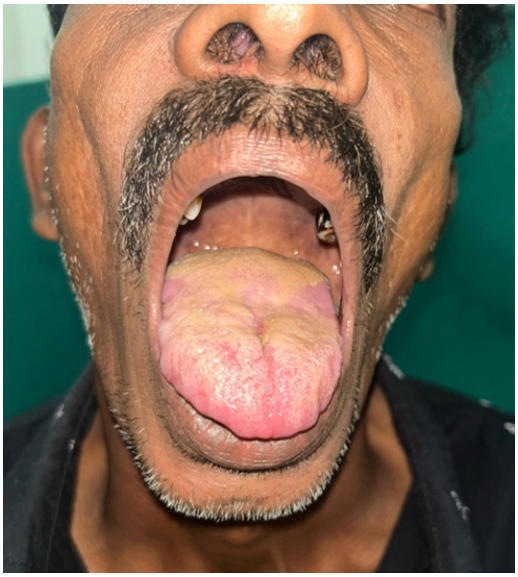


Figure 1: Clinical photograph at presentation showing painful restriction of tongue protrusion with no obvious swelling.

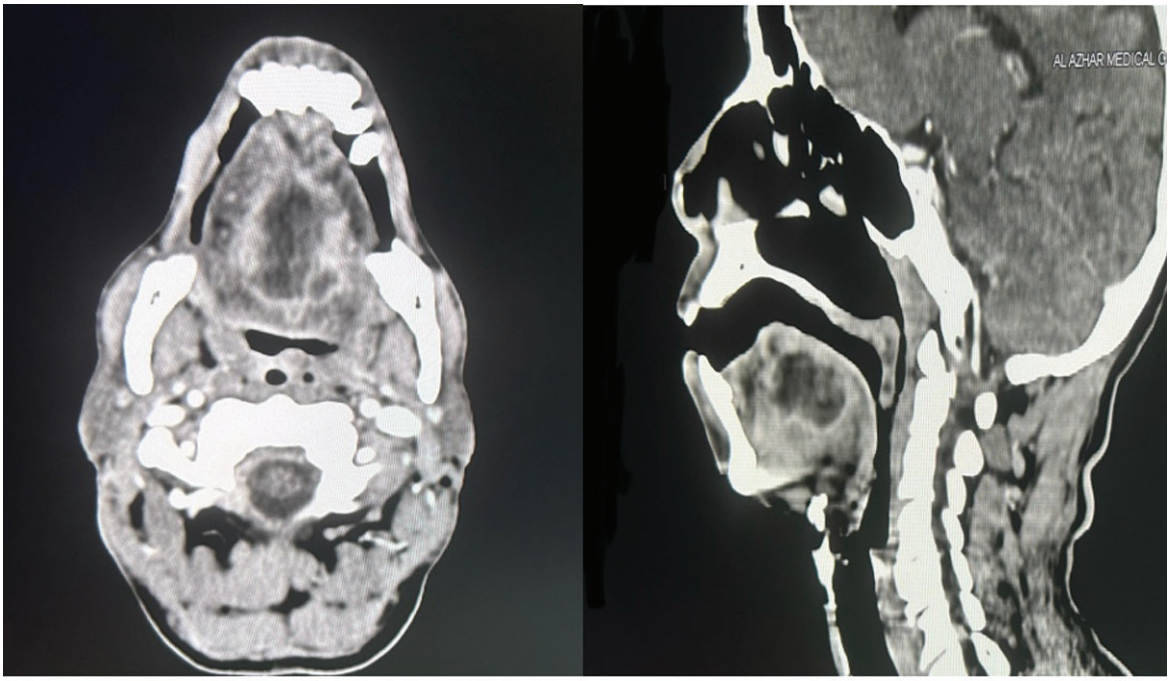


Figure 2a Figure 2b

Figure 2a & Figure 2b: Showing sagittal and axial sections of contrast-enhanced CT head and neck revealing a peripherally enhancing lesion involving the deep intrinsic muscles of the tongue, suggestive of a lingual abscess.

CASE PRESENTATION

A 54-year-old male presented to the otorhinolaryngology department with a 3-day history of progressive dysphagia, odynophagia, painful tongue protrusion, and fever. He denied recent trauma, dental procedures, or immunocompromising conditions. On examination, the patient was febrile with tenderness over the dorsum of the tongue, exacerbated by active movement. Notably, there was no visible mucosal or external tongue swelling **(Figure 1)**, no elevation of the floor of the mouth, and the airway remained uncompromised, which was confirmed with videolaryngoscopy. Laboratory investigations revealed a white blood cell count of 13,800/mm³ with neutrophilic predominance, a random blood sugar of 110 mg/dL, and a negative HIV and HbsAg serology, ruling out underlying immunosuppression.

Contrast-enhanced computed tomography (CECT) of the head and neck demonstrated an irregular thick walled intralingual peripherally enhancing collection with central homogeneous non enhancing areas ~ volume of 16-18cc centred in the body of tongue in the midline involving predominantly intrinsic muscles of tongue consistent with a lingual abscess. No extension into the submandibular or parapharyngeal spaces was observed. The patient underwent transoral surgical drainage under local anaesthesia, during which 9-10 mL of thick purulent material was evacuated. Empirical intravenous antibiotics, including piperacillin-tazobactam and metronidazole, were initiated. Pus culture identified Streptococcus anginosus complex, sensitive to penicillins. On day 4, the patient transitioned to oral amoxicillin-clavulanate. He was discharged on day 6 with complete symptom resolution and, at a 2-week follow-up, exhibited normal tongue function and no evidence of recurrence **(Figure 3).**

DISCUSSION

Deep lingual abscesses, unlike their superficial counterparts, pose unique diagnostic challenges due to the absence of visible swelling or erythema. Superficial abscesses typically present with overt tongue enlargement, whereas deep abscesses, as seen in this patient, may involve intrinsic or extrinsic muscles



Figure 3: Clinical photograph showing significant clinical improvement in tongue protrusion following abscess drainage.

without surface findings.[3] This atypical presentation can mimic conditions such as glossitis, lingual tonsillitis, or early Ludwig's angina, necessitating a high index of suspicion.

Imaging is pivotal in confirming the diagnosis. Contrast-enhanced CT, the modality of choice, provides excellent resolution of muscle involvement and potential airway compromise, as demonstrated in this case. Magnetic resonance imaging (MRI) offers superior soft-tissue differentiation, distinguishing abscess from cellulitis, but its acute unavailability limits its utility. Ultrasound, while effective for superficial collections, is less reliable for deep-seated infections. Recent studies underscore the importance of imaging in guiding management, particularly in atypical presentations.[4,5]

Management of deep lingual abscesses typically requires surgical intervention, especially in the presence of systemic symptoms or significant muscle involvement. Transoral drainage, as performed in this case, effectively evacuates purulent material and alleviates pressure **(Figure 2a and 2b)**. Needle aspiration may suffice for smaller collections, but larger or deep abscesses, as seen here, warrant incision and drainage. Empirical antibiotic therapy[6] should cover common oral pathogens, including Streptococcus and anaerobic species, with piperacillin-tazobactam or clindamycin as suitable choices. Culture-guided therapy, as employed in this case, optimizes treatment efficacy. Conservative management with antibiotics alone may be considered for small, early-stage collections without systemic symptoms, though this approach carries a risk of progression.[7]

The favorable outcome in this case highlights the efficacy of prompt imaging and surgical intervention. Delayed diagnosis risks complications, including airway obstruction, deep neck space infections, or sepsis. Recent literature reports mortality rates below 1% with timely treatment, underscoring the importance of early recognition.[4,7] This case also emphasizes the need for multidisciplinary collaboration, involving otorhinolaryngologists, radiologists, and infectious disease specialists, to ensure comprehensive care.

CONCLUSION

This case underscores the diagnostic and therapeutic challenges of deep lingual abscesses presenting without external swelling. Clinicians must maintain a high index of suspicion in patients with tongue pain, odynophagia, and systemic symptoms, even in the absence of visible findings. Contrast-enhanced CT is indispensable for diagnosis, while early surgical drainage and targeted antibiotics are critical for preventing airway compromise and achieving rapid recovery. Increased awareness of this rare entity can enhance clinical outcomes and reduce morbidity.

END NOTE

Author Information

1. Nithin Mohan, MS., DNB., DLO., Assistant Professor, Department of ENT, Al Azhar Medical College and Super Specialty Hospital, Thodupuzha, Kerala, India.

2. Davis Thomas Pulimoottil, MS., Professor, Department of ENT, Al Azhar Medical College and Super Specialty Hospital, Thodupuzha, Kerala, India.

3. Akhila P C, MBBS., Junior Resident, Department of ENT, Al Azhar Medical College and Super Specialty Hospital, Thodupuzha, Kerala, India.
4. Ramiya Ramachandran Kaipuzha, MS., Registrar, Department of Otorhinolaryngology, Jahra Hospital, Al Jahra, Kuwait

Financial Support: This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Ethical Standards: The authors assert that all procedures contributing to this work comply with the ethical standards of the institutional and national guidelines on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. Written informed consent was obtained from the patient for publication of this case report.

Conflict of Interest: None declared

Acknowledgements: None

REFERENCES

1. Srivanitchapoom C, Yata K. Lingual abscess: predisposing factors, pathophysiology, clinical manifestations, diagnosis, and management. Int J Otolaryngol. 2018;2018:4504270.
2. Amigo González J, Lesmas Navarro MJ, Mazón M, Armengot Carceller M. Posterior lingual abscess; report of two cases. Arch Acad Emerg Med. 2023;11(1):e18.
3. Bekele K, Markos D. Lingual abscess: a case report. Int Med Case Rep J. 2017;10:285-287.
4. Datta D, Chatterjee D, Tiwari M. Lingual abscess after posterior fossa surgery: an unusual complication of the Concorde position. Asian J Neurosurg. 2023;18(4):810-812.
5. Carotenuto A, Menke B, Jolton J, Dowdall JR. Recurrent lingual abscess in an elderly female with bulbar amyotrophic lateral sclerosis. Cureus. 2022;14(8):e28280.
6. Safia A, Shehadeh R, Merchavy S. Anterolateral lingual abscess in a young adult: a comprehensive case study. Ear Nose Throat J. 2024:1455613241233922
7. Plata-Huerta HH, Rosero-Castillo AE, Trevino Gonzalez JL. Lingual abscess in an adult patient with Pierre Robin sequence: a case report. Cureus. 2024;16(7):e65460.