



Tongue (Lingual) Abscess: Two Case Reports with Review of Literature

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ABSTRACT

Lingual abscess seems to be a rare clinical entity and is a potentially life-threatening infection. It may result in airway compromise and disseminated infections to other regions especially to the brain. Thus, a diagnosis of tongue abscess should be considered in all cases of acute tongue swelling. Lingual abscess requires prompt diagnosis and aggressive management as they are associated with potentially fatal complications. We hereby report two cases of lingual abscess occurring in a 39 years old man and an 8 years old girl who presented with painful swelling over the tongue. Fine needle aspiration cytology (FNAC) was effective in arriving at the diagnosis followed by histopathological confirmation.

Keywords: Fine needle aspiration cytology, Histology, Lingual abscess.

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INTRODUCTION

Lingual or tongue abscess is an extremely rare condition, which is more often seen in males than in females.¹ The tongue is generally resistant to infection due to a range of barriers which provide good immunity. Tongue abscess occurs if host defense mechanisms are impaired.²

However, if infected it has potentially fatal complications like brain abscess.³ Therefore, it is imperative to diagnose the condition appropriately. Fine needle aspiration cytology (FNAC) of the lingual swelling may be a useful diagnostic as well as a therapeutic tool.⁴ Though there are extensive

western literature on tongue abscess, there are limited cases reported from India. Herein, we report two cases of lingual abscess occurring in a 39 years old man and an 8-year-old girl who presented with painful swelling over the tongue.

CASE REPORTS

Case 1

A 39 years old male patient presented with a progressively enlarging painful swelling measuring 2 × 2 cm, firm in consistency in the left anterior surface of the tongue, since 20 days. On examination cervical lymph nodes were not enlarged. White blood cell (WBC) count was 8900/mm³ and serum glucose concentration 120 mg/dl. The patient was a known diabetic on medication.

Case 2

An 8 years old girl presented with a painful swelling, measuring 2 × 2 cm on the right anterior surface of the tongue (Fig. 1A) since 10 days. Patient had difficulty in talking and her WBC count was 13,000/mm³. No lymphadenopathy.

Fine needle aspiration in both cases yielded 0.5 ml of pus. Cytological findings in both cases showed numerous neutrophils enmeshed in eosinophilic fibrin (Fig. 1B) Ziehl-Nelson staining for acid-fast bacilli was negative. No epithelial cells were seen. A diagnosis of acute inflammatory process (abscess) was offered.

In case 2, fine needle aspiration was diagnostic as well as therapeutic as the swelling subsided on aspiration. The patient was further treated with a course of antibiotics.

Excision biopsy was performed under general anesthesia for case 1.

Gross findings: Received a single grey black irregular soft tissue bit measuring 1.8 × 1 × 1.5 cm.

Microscopic examination revealed skeletal muscle fibers, minor salivary glands and a few blood vessels (Fig. 1C). There was mild inflammatory infiltrates (Fig. 1D). A diagnosis of chronic nonspecific inflammation was conferred.

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DISCUSSION

Lingual abscess or acute suppurative glossitis is a rare clinical entity found frequently on the anterior portion of the tongue and is usually unilateral.¹ It can occur at any age groups but common between 30 and 50 years old, with no sex predilection.^{1,2}

The tongue is generally immune to infections due to several factors: (a) constant mobility of tongue producing a cleansing effect (b) thick keratinized mucosa that resists penetration by microorganisms (c) bulky muscle tissue (d) rich vascular supply and lymphatic drainage (e) immunological properties of saliva.¹

The severity of the lingual abscess may depend on the site. An abscess in the anterior two third may not be severe, easily diagnosed whereas those occurring on the posterior one third may obstruct the airway and may pose a diagnostic challenge.²

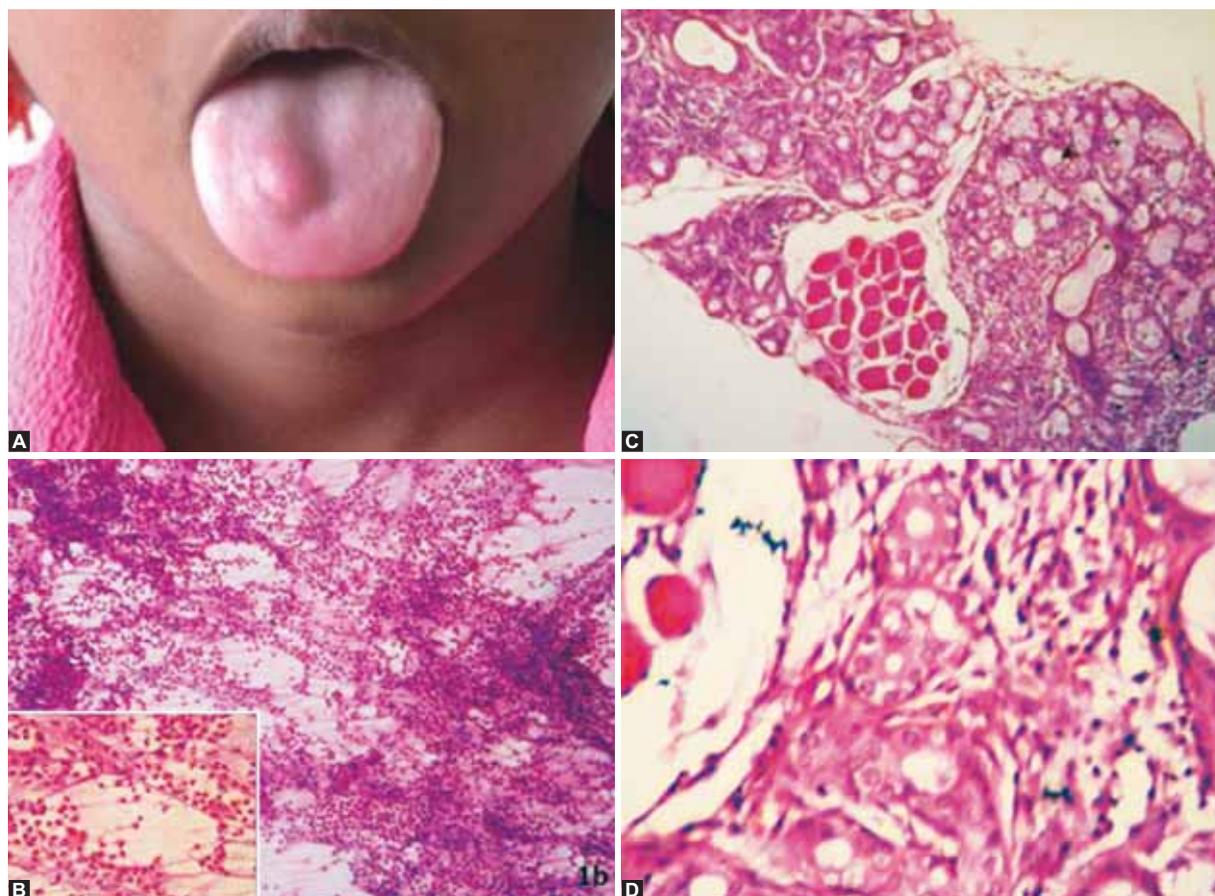
The etiological factors for abscess on anterior surface include trauma from ragged or caries teeth, ill-fitting dentures, biting or due to foreign body such as fish bone, etc.⁵ Others include acute parenchymatous glossitis, infected

circumvallate papillae, upper respiratory tract infections and immunodeficiency states.^{5,6}

If it involves the posterior third of the tongue, the abscess usually originates as lingual tonsillar infection, infected thyroglossal duct cysts, or extensions of apical or periodontal infections from lower molars.⁷ Boon et al have reported an interesting case of lingual abscess due to a bristle from a grill cleaning brush in a patient who presented with severe tongue and ear pain.⁸

Both our cases occurred on the anterior surface of the tongue. The cause in our cases may be attributed to diabetes in first case, however the cause is unknown in second case. Perhaps it may be just due to tongue biting while eating or tooth eruption which may have caused the trauma as the patient is a young child.

Clinically the patient may complain of sudden rise in temperature associated with chills, generalized discomfort, pain or flushed cheeks or painful swallowing and salivation.⁶ Sometimes the patient presents with referred pain to the jaws and to the ears, due to involvement of the chorda tympani nerve. Occasionally it may also affect speech and breathing.⁶



Figs 1A to D: Photograph showing (A) swelling on the right anterior aspect of the tongue microphotograph showing (B) numerous neutrophils enmeshed in eosinophilic fibrin, (H&E, 40x) Inset (H&E, 400x) (C) skeletal muscle fibers, minor salivary glands and a few blood vessels (H&E, 40x) (D) muscle fibers, salivary glands and mild inflammatory infiltrates (H&E, 400x)

Dyspnea and dysphagia are serious complications that calls for emergency attention.⁵

Lingual abscesses originate via direct invasion but bloodborne infections are also reported.⁵ These abscesses are frequently mixed infections caused by staphylococci, streptococci, diphtheroids or anaerobic bacteria.⁹ Infection with actinomycosis was reported in former US president Ford, hence also termed as 'The President syndrome'.¹⁰

Another interesting cases include of infection with *Pasteurella multocida* in a farm worker,¹¹ *Haemophilus parainfluenzae*,⁶ and ulcerative glossitis secondary to leishmaniasis in a dog.¹² The importance of diagnosing lingual abscess lies in the fact that it cause fatal complications if not diagnosed early and treated. If left untreated may cause airway compromise or sepsis.¹¹

Complications include edema of the glottis, suffocation, hemorrhage, descending infections into the mediastinum, lungs, and pericardium or brain abscess which can be quite dreadful.³

Fine needle aspiration is a simple and an easy diagnostic and therapeutic tool.⁴ Microbiological examination of aspirated pus may be helpful in isolating the organism. Even in our case FNAC served as a useful diagnostic and therapeutic tool. However other diagnostic modalities include ultrasonogram (USG), computed tomography (CT) or magnetic resonance imaging (MRI) which may be useful in complicated cases to detect the spread of the lesion and to rule out malignancy in suspected cases.²

The differential diagnosis of sudden acute lingual swelling (acute macroglossia), i.e. acute hemorrhage, edema, infarction or a hematoma. The tongue is richly supplied with lingual artery and its branches so prone for hemorrhage and hematoma formation. Bleeding can also occur due to vascular malformation or hemorrhagic disorders. Acute edema may precede allergy or angioedema due to insect bite whereas acute ischemic necrosis (infarction) is unusual and may occur as a complication of giant cell arteritis.³ Ludwig's angina, lingual artery aneurysm and lingual tonsillitis are some of the other differentials.¹¹ The differentials for lingual abscess also include acute epiglottitis, infected lingual dermoid or epidermoid tumors, cystic lesions and lymphoma.²

Lingual abscess in anterior two third can be managed with medical line of management where in the posterior one third may require surgical intervention in order to limit the spread of infection to deeper tissues.⁴ However, the cornerstone of treatment is drainage of abscesses with adjunctive antimicrobial therapy and removal of infected foreign materials, which is of critical importance for recovery.³

CONCLUSION

Lingual abscess though rare can be life-threatening if neglected. Hence, through evaluation, proper diagnosis and early treatment can avoid serious consequences.

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