Lingual Abscess Presenting as Unilateral Base of Tongue Swelling

Christina J. Yang, MD, Paul L. Friedlander, MD, FACS

Tulane University School of Medicine, Tulane University Hospital and Clinics

ABSTRACT

Objectives: Lingual abscess is a rare clinical entity. Early recognition and treatment are paramount. We review the presentation, evaluation, microbiology, and treatment of lingual abscesses.

Study Design: case report and literature review.

Methods: case presentation and literature review of lingual abscesses.

Results: A thirty-two-year-old white male with history of tooth extraction presented with progressive odynophagia and dysphagia and right base of tongue swelling. Emergent incision and drainage was performed after securing the airway. He had complete resolution of the abscess with oral antibiotics and remains asymptomatic eight months later.

Conclusions: Lingual abscess is an uncommon clinical entity associated with oral trauma. Treatment centers on securing the airway, drainage of the abscess, and antimicrobial therapy.

Keywords: tongue abscess, lingual abscess, glossal abscess, tongue diseases, tongue infection, abscess, emergency, airway obstruction

INTRODUCTION

Lingual abscess is an uncommon and potentially life threatening clinical entity associated with immunocompromise and trauma from carious teeth or foreign body, although often no specific cause is found. Presenting signs and symptoms include dysphagia, odynophagia, drooling, voice change, dysarthria, and low-grade fever. Imaging, in particular computed tomography, is useful in diagnosis. Prompt diagnosis is paramount in the face of potential airway obstruction. Upon securing the airway, treatment consists of surgical drainage and antimicrobial therapy directed toward aerobic and anaerobic oral flora.

METHODS AND MATERIALS

A patient with posterior lingual abscess treated at Tulane University Hospital and Clinic Department of Otolaryngology-Head and Neck Surgery is presented. Case presentation, evaluation, microbiology, and treatment are reviewed.

RESULTS

A thirty-two-year-old white male presented with a three-day history of dysphagia for solids and odynophagia. Review of symptoms was significant for a two-week history of intermittent sore throat and right-sided dental extraction one month prior.

The patient was afebrile. On physical exam with flexible fiberoptic laryngoscopy, right lateral and base of tongue swelling and a “hot potato” voice were noted, without associated dental caries, trismus, drooling, stridor, cervical lymphadenopathy, or respiratory distress.

White blood cell count was normal (10,300 WBC/microliter) with neutrocytosis (83 percent neutrophils). Computed tomography of the neck with intravenous contrast revealed a 2.0 x 2.3 x 1.6 cm rim-enhancing, fluid-filled right base of tongue mass (Figure 1). There was no evidence of thyroglossal duct cyst.

The patient was taken to operating suite for emergent incision and drainage of the abscess. Intravenous clindamycin and a dexamethasone taper were administered. Cultures revealed mixed oral flora (group B beta streptococci, prevotella buccae, bacteroides capillosus). Pathology was negative malignancy. HIV-1 and -2 tests and fungal and acid fast bacilli cultures were negative. He was afebrile and tolerating a liquid diet upon discharge home on postoperative day two with a two-week course of amoxicillin/clavulanate.

Complete resolution of abscess was confirmed over a six-week follow-up with postoperative MRI (Figure 2). He remains asymptomatic eight months later.

DISCUSSION

Lingual abscess usually arises in the setting of immunocompromise, trauma from carious teeth or foreign body. When affecting the posterior tongue, causes included an infected lingual tonsil, thyroglossal duct cyst, or extensions of apical infection from first or second molars. Often, no specific cause is found.

Although they occur more commonly in the anterior than posterior tongue, lingual abscesses are relatively rare. This may be due to the protective mechanisms of the tongue, including thick keratinized squamous epithelium, dense muscular component, excellent blood and lymphatic supply, salivary flow (with lubricating, cleansing, and immunologic functions), and constant mobility.

Lingual abscesses present with hours to days of pain and swelling in the tongue, dysphagia, odynophagia, excessive salivation, dribbling of saliva, voice change, difficulty in speaking as well as protruding of the tongue, and, occasionally, referred otalgia. The swelling is non-fluctuant and tender. Low-grade fever and signs of dehydration may be present.

Lingual abscesses demonstrate hypoechoegenicity on ultrasound and rim enhancement on contrasted computed tomography (CT) and magnetic resonance imaging (MRI). MRI affords excellent soft tissue detail and is more sensitive but less specific than CT for lingual abscess.

DISCUSSION (cont.)

Complete blood count may reveal leukocytosis with neutrophilia and bandemia. Causative organisms include Staphylococcus and Streptococcus species, Haemophilus parainfluenzae, anaerobes (Bacteroides), Actinomyces, and, often, mixed oral flora. Differential diagnosis includes syphilis, tuberculosis, malignancy (solid tumor, lymphoma, metastasis), false aneurysm of the lingual artery, arteriovenous malformation, angioedema, Ludwig’s angina, acute epiglottitis, infected lingual dermoid or epidermoid tumors, other cystic tumors (infected or not), metabolic macroglossia in hypothyroidism or hypothyroidism or developmental macroGLOSSIA in lingual thyroid or ectopic lymphoid tissue, amyloidosis, sarcoidosis, myxedema, mucous retention cyst, neurofibroma, hemangioma, lymphangioma, and lipoma.

Although less common in developed countries, lingual abscesses tend to be associated with poor oral hygiene, a risk factor that should be addressed in the peri- and postoperative period.

Treatment is centered on ensuring an adequate airway, abscess drainage, and empiric antimicrobial therapy directed toward oral flora.

Fortunately, no associated deaths have been reported in the antibiotic era.

CONCLUSIONS

Lingual abscess is an uncommon clinical entity associated with oral trauma. Diagnosis may therefore be difficult and aided by ultrasound, CT, or MRI. Treatment centers on securing the airway, drainage of the abscess, and antimicrobial therapy directed toward aerobic and anaerobic oral flora. There have been no associated deaths in the antibiotic era.

REFERENCES