

Lingual abscess: a case report

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Background: Lingual abscesses have become extremely rare since the discovery of antibiotics, despite the relatively frequent exposure of tongue to bite trauma during mastication and seizures. It is a potentially life-threatening clinical entity. Even though there were some case reports on tongue abscess from overseas, none of them were reported from Africa, particularly from Ethiopia.

Case presentation: A 36-year-old male patient with severe, continuous pain and swelling of tongue for 6 weeks was presented to Goba Referral Hospital. The swelling was 2 cm by 1 cm, located on posterior central tongue, and frank pus oozed from the center of the swelling. He had associated dysphagia, odynophagia, and speech difficulty. He had no previous personal and family history of similar illness and tonsillitis. Gram staining revealed the presence of Gram-positive cocci in clusters. Pyogenic lingual abscess was the diagnosis. Treatment included incision and drainage with the administration of systemic antibiotics, which covered both aerobic and anaerobic organisms, and anti-pain drugs. The condition did not relapse in 6 months of follow-up.

Conclusion: Lingual abscess should be considered in patients presenting with tongue swelling, dysphagia, odynophagia, and speech difficulty. Since lingual abscess that occurs on the posterior part of the tongue has diagnostic difficulty, professionals in rural setup where diagnostic resources (such as ultrasound and magnetic resonance imaging) are scarce should be careful not to misdiagnose it. Incision and drainage with the administration of systemic antibiotics and anti-pain drugs is an effective treatment option for lingual abscess.

Keywords: lingual abscesses, tongue abscess, swelling, incision, drainage, case report

Introduction

Lingual abscesses have become extremely rare since the discovery of antibiotics despite the relatively frequent exposure of the tongue to bite trauma during mastication and seizures.^{1,2} Even though it is a rare disease, it is a potentially life-threatening clinical entity.³ Therefore, it must be recognized promptly and treated as a potential airway emergency, particularly if the abscess is at the base of the tongue.⁴

Despite exposure to many potential pathogens, tongue is comparatively immune to infection and an unusual site of abscess.⁵ Some of the reasons for this immunity include constant mobility of the tongue, which helps the saliva produce a perpetual cleansing effect; its thick covering of keratinized mucosa, which is not easily penetrated by microorganisms; the muscle tissue, which constitutes the chief bulk of its parenchyma, with its rich vascular supply; its rich lymphatic drainage; and the immunologic properties of saliva.^{6,7}

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Tongue abscess frequently presents as painful swelling which causes protrusion of the tongue, dysphagia, odynophagia, and difficulty with speech.⁸

Predisposing factors for the development of tongue abscess are poor oral hygiene, immunodeficiency status, chemotherapeutic drugs, and diabetes. Being immunodeficient is also considered as a predisposing risk factor for the development of tongue abscess.^{3,9}

Even though there were some case reports on tongue abscess from overseas,^{1-6,9-13,16} none of them were reported from Africa, particularly from Ethiopia. This paper reports the case of lingual abscess diagnosed in a 36-year-old man who presented with painful swelling of the tongue. Written informed consent was obtained from the patient to publish this case report.

Case presentation

A 36-year-old male patient with severe continuous pain and swelling of tongue for 6 weeks was presented to Goba Referral Hospital. He is a farmer, married, and has two children. The swelling was 2 cm by 1 cm, located on posterior central tongue, and frank pus oozed from the center of swelling. The patient had associated dysphagia, odynophagia, and speech difficulty but no dyspnea. He had voluntary fixation of tongue because of pain. He had a history of left upper side and last molar tooth extraction before 10 years. Currently, he has been suffering from toothache and dental caries on the adjacent molar. He also had poor dental hygiene. The patient had no history of fever and chills. Additionally, he had no history of tongue bites or tongue trauma in the last 6 months. He had no previous personal and family history of similar illness and tonsillitis. The patient had no submandibular swelling, history of seizure, diabetic mellitus, hypertension, and retroviral infection. He had never eaten fish throughout his life but had consumed barley, milk, and sometimes wheat. The patient had no history of chewing chat, cigarette smoking, and drug use except for taking beer once per 1–2 months.

Before the patient visited our hospital, he was first treated at a health center where he was diagnosed with tonsillitis and was given amoxicillin 500 mg po tid (orally three times a day) for 7 days and paracetamol 1 g po prn. Although he showed mild improvement following treatment, the symptoms worsened after the completion of the course of antibiotics. Then, for the second time, the patient went to a private clinic where he was given augmentin 625 mg po bid for 7 days and tramadol 50 mg po prn. However, the patient was not relieved of pain and swelling.

With a diagnosis of pyogenic lingual abscess with lingual tuberculosis and tongue tumor as differential diagnosis, the

patient was investigated. Random serum glucose level was 120 mg/dL, complete blood count was within normal range, and HIV antibody test was negative. Additionally, liver and renal function tests were done and found to be normal. Furthermore, venereal disease research laboratory test, and hepatitis B serum antigen and hepatitis C virus antibody tests were done and the results were negative.

An incision of 1 cm was made and 10 cc of thick frank pus was drained. A sample was taken from the drained pus and Gram staining was done; the report revealed Gram-positive cocci in clusters. However, acid fast bacilli test was negative. After drainage, augmentin 625 mg po tid for 7 days, metronidazole 500 mg po tid for 5 days, and diclofenac 50 mg po bid for 5 days was given, and the patient was relieved of pain after 48 hours of drug administration. The diagnostic difficulty in this patient was due to two reasons: 1) since lingual abscess is a very rare disease, patient was misdiagnosed in the health center as well as in the private clinic and 2) absence of culture and sensitivity service in our hospital. The patient was followed for 6 months and the condition did not relapse.

Discussion

The lingual abscess in this patient was located on posterior central tongue and was difficult to diagnose on physical examination. Literature also supports the fact that abscesses located in the anterior two-thirds of the tongue are easy to diagnose on the basis of physical findings. However, those situated in the posterior third may pose a diagnostic challenge.¹⁴

This patient had a history of left upper side and last molar tooth extraction before 10 years. Currently, he has been suffering from toothache and dental caries on the adjacent molar. This condition was also reported by some authors,^{11,12} where posterior third abscess of the tongue mostly originates from the extension of dental infection or lingual tonsillar infection and/or infected thyroglossal duct cyst remnants.

Gram staining of thick pus taken from the incision of swollen tongue of the patient revealed the presence of Gram-positive cocci in clusters. In addition, previous literature supported the fact that under rare conditions, an infected thyroglossal duct cyst at the base of the tongue may develop into a lingual abscess and the most frequent causative agents are staphylococci and streptococci.^{6,7}

The patient had no history of smoking, seizure disorder, diabetic mellitus, hypertension, and retroviral infection but had poor oral hygiene. This situation is not in agreement with what has been reported in the literature except for the oral hygiene condition. Previous works have reported that tongue abscesses are most notable in heavy smokers,^{7,8,12} subjects with poor oral hygiene, and immunocompromised patients,

such as those suffering from leukemia, neutropenia, AIDS, or diabetes mellitus.^{13,15,16}

The patient had no history of tongue bites or tongue trauma in the last 6 months of his presentation to our hospital. Evaluation of not only the underlying medical problem but also the history of trauma to tongue was essential in the diagnosis of tongue abscesses. Nevertheless, in some cases,¹⁷ no specific cause may be found, as in our case.

After the drainage of pus, broad spectrum antibiotics that cover both aerobic and anaerobic bacteria with anti-pain drugs were given to the patient, and he became free of pain after 48 hours. This treatment approach was also proposed by other authors.^{1,16}

Conclusion

Tongue abscess should be considered in patients who present with tongue swelling, dysphagia, odynophagia, and speech difficulty. The occurrence of posterior tongue abscesses is relatively rare but they are considered as potentially life-threatening pathologies. Incision and drainage with the administration of systemic antibiotics that cover both aerobic and anaerobic organisms and anti-pain drugs are the treatment of choice for the lingual abscess. Since lingual abscess that occurs on the posterior part of the tongue has diagnostic difficulty, professionals in a rural setup where diagnostic resources (such as ultrasound and magnetic resonance imaging) are scarce should be careful not to misdiagnose it.

Disclosure

The authors report no conflicts of interest in this work.

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