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Lingual abscess- a rarity

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Abstract

Abscess of the tongue seems to be a rare clinical entity and is a potentially life threatening infection. This acute enlargement of the tongue can present as an emergency, due to an air-way compromise and disseminated infection to other regions. Thus, a tongue abscess should be considered in all cases of acute tongue swellings, especially when host defenses are severely impaired. In acute cases the diagnosis of tongue abscess can be reached clinically. In later cases, culture and smear analysis are useful diagnostic tools, whereas antibiotics provide considerable amelioration of symptoms. Although none of our cases were life threatening, but we could able to diagnose these cases, based on their classic clinical symptoms and all three cases were confirmed by using standard diagnostic tool. They were put on antibiotics and anti-inflammatory drugs for the relief of symptoms followed by the local drainage. The following article explains pathophysiology, differential diagnosis and management of these tongue abscess cases in detail.

Key words: Tongue, Abscess, Lingual.

Introduction

Abscess of the tongue is a rare clinical entity which is potentially life threatening as it is capable of compromising airway and disseminates infection to other regions. 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). A lost fish bone may be the cause in many cases (3). Tongue abscess frequently presents as painful swelling which causes protrusion of the tongue, dysphagia, odynophagia, and difficulty with speech (4), but occasionally presents as an emergency condition (5), and should be considered in all cases of acute tongue swellings, especially when host defenses are severely impaired.

Abscesses located in the anterior two thirds of the tongue are easy to diagnose on the basis of physical findings, while those situated in the posterior third may pose a diagnostic challenge. Clinical and ultrasound examination should establish the diagnosis, and treatment should be done by surgical incision and drainage (6). Three such rare cases of tongue abscess are discussed in detail in the following article.

Case Reports

Case Report1

A 52-year-old female with no systemic diseases was presented to the department of Oral Medicine and Radiology complaining of an acute and painful swelling on the left side of her tongue since 4 weeks. Although her pain symptoms initially decreased with antibiotic treatment, they recurred and the mass was increasing in size later. The patient did not recall eating fish in the last 6 months or exposed to trauma recently. The left submandibular nodes were palpable and tender. The white blood cell count was 4,500/mm³. On local examination, soft tissue swelling of 2x3-cm in diameter was palpable on the left side of the dorsum of the tongue. The mass was painful, fluctuant and pus was oozing on pressure (Fig1). Aspi-



Fig. 1. Clinical presentation of tongue abscess with pus exudation.

rated culture subsequently grew *Streptococcus faecalis*. The case was diagnosed as tongue abscess and managed successfully with local drainage followed by antibiotic and analgesic coverage. There was no recurrence on the subsequent review visits.

Case Report2

A 24-year-old male presented with moderately painful, hard tongue mass with intact mucosal surface of 3 months duration. The patient was healthy and gave no history of local trauma. On examination, about 5x3 cm ovoid, firm swelling occupying the left side of the tongue dorsum causing marked tongue asymmetry was noted. The overlying mucosa was of normal color. However, it was not interfering with tongue movements. There was no regional lymphadenopathy. The blood picture was normal. Differential diagnosis included tongue abscess, benign tumor and hemangioma. All hematological investigations were normal but the ultrasound image (Fig 2) suggested of inflammatory lesion. Aspiration of the lesion was done and sent for smear analysis. Smear analysis grew gram-positive cocci and gram-negative rods and aspirated culture subsequently yielded bacteroid species. The swelling later was successfully treated with local drainage Followed by antibiotic and analgesic coverage. Later the patient was followed for 6 months without any recurrence.



Fig. 2. Ultrasonic image note the hypoechoic lesion with surrounding edema and hyperemia.

Case Report3

A 57 years old female patient presented with hard rounded mass on the right side of the tongue dorsum. The patient was healthy and gave no history of local trauma. Although tongue movements were not affected, on examination, the tongue was enlarged, pale and tender. Some pus was noted oozing from the centre of the mass. (Fig 3). There was no regional lymphadenopathy. The differential diagnosis included oral tuberculosis, other chronic granulomatous lesions and tongue abscess. Clinically aspiration performed for culture and smear analysis. Where smear analysis grew gram-positive cocci and gram-negative rods. Culture yielded bacteroid species. Hematological investigations and chest X-ray were normal and tuberculin test was negative. As there



Fig 3. Pus exudation seen at the centre of the tongue swelling.

was considerable soft tissue mass, an incisional biopsy was performed (at which a considerable amount of pus came out). The histopathological picture was consistent with chronic granulation tissue with abundant chronic inflammatory cells. The case was successfully managed by drainage and a course of antibiotic and analgesic therapy. Followed for 6 months without any recurrence.

Discussion

Lingual Abscess is a rare condition. Although none of our cases were in acute status nor were they in immunocompromised state. The chronicity could be related to the lack of awareness and they visited the local doctor due to cancerophobia. Despite exposure to many potential pathogens the tongue is comparatively immune to infection. Although the tongue is constantly subjected to trauma, the inflammatory conditions of the tongue resulting from acute trauma are rare, probably due to the tongue's rich blood supply, unique muscular anatomy and thickness of the covering mucous membrane. The tongue's constant mobility helps the saliva to produce a perpetual cleansing effect (7). Recent literature reports reveal the association between Lingual Abscess and body piercing (1, 8). Glossal abscess is more frequently found on the anterior portion of the tongue and is usually unilateral, being related to direct trauma. In the posterior third of the tongue, the abscess most often originates as lingual tonsillar infection, infected thyroglossal duct cysts, or extensions of apical or periodontal infections from lower molars (9, 10, 11).

Only few cases of tongue abscess have been reported in the English literature (12). Here we discussed three cases of tongue abscess presented to our clinic; all of them were located on the anterior two thirds of tongue. None of them were life threatening, although they were present for long duration and not near the airways. Interestingly, pain symptoms were mild. Needle aspiration of pus collection was a useful diagnostic and therapeutic tool, which provides considerable amelioration of symp-

toms (13) the same technique was used in our patients also. The diagnosis in all of our three cases was basically clinical and further smear analysis, culture, histopathology and ultrasound imaging confirmed the diagnosis. Tongue abscess should be differentiated from related pathologies with similar clinical symptoms. Most of the abscesses involving the anterior two thirds of the tongue are neither severe nor difficult to diagnose. When unremarkable signs or symptoms are apparent, making the diagnosis becomes difficult. Then several imaging techniques can be used to evaluate the tongue swellings, including sonography (14), computed tomography, and magnetic resonance imaging (15).

The differential diagnosis includes a number of diseases that may appear as lingual swelling such as tumor, cyst, infarction, edema, infection, and hemorrhage. Other causes of such swelling include metabolic macroglossia in hyperpituitarism or hypothyroidism or developmental macroglossia in lingual thyroid or ectopic lymphoid tissue (5). Oral tubercular ulcers should particularly be considered in the differential diagnosis of tongue abscess, as the tongue being the most common site for oral involvement by tuberculosis. On the other hand, those cases involving the posterior third can obstruct the upper airway and constitute a clinical challenge. In such cases, imaging investigation and laboratory tests may give insight to the problem and establish a reasonable diagnosis.

Conclusion

In conclusion, three cases of tongue abscesses in the anterior third of the tongue were reported with their clinical presentation, differential diagnosis and management outcomes. The lingual abscesses call for prompt and aggressive management because they are potentially life-threatening infections when they occur in posterior tongue region. Antimicrobial therapy is the cornerstone of treatment. As in the presented cases, incision, and drainage was done without any delay at the initial stage and followed by antibiotic and analgesic coverage. Then later follow-up was done for 6 months.

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