



Glossal Lesions Masquerading as Malignancy- A Rare Case Report

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Abstract

Tuberculosis (TB) is systemic infectious disease caused by Mycobacterium Tuberculosis. TB can involve almost any organ of body. Tuberculosis of tongue whether primary or secondary is rare. It can present as single or multiple painful non-healing ulcers on dorsum of tongue. The histopathological diagnosis is gold standard aided by ancillary techniques including CBNAAT, culture, Mantoux test, X-Ray and AFB examination along with detailed clinical history and physical examination. We present a case of tuberculosis of tongue in a 67 years old male presented with complaints of dysphagia.

Keywords: Tuberculosis, tongue, malignancy

Introduction

Tuberculosis is a chronic granulomatous infection caused by Mycobacterium tuberculosis. It has been a worldwide major health problem for many centuries. India accounts for approximately one third of global burden of tuberculosis. [1,2] It is a systemic infectious disease and can involve almost any organ of the body. Tuberculosis of tongue whether primary or secondary is very rare phenomenon. Tuberculosis of tongue was recognized as early as 1888 [3] and was published as isolated case reports or case series. [4-11] The clinical diagnosis is often very difficult, as it is rare to suspect that an ulcer, fissure or nodular mass in the tongue is tuberculous in origin. We present a case of tuberculosis of tongue in a 67 years old male presented with complaints of dysphagia.



Case Report

67 years male presented with chief complaints of difficulty in deglutition for solid foods for 3 months. Patient was apparently asymptomatic 3 months back. Then he developed dysphagia for solid foods along with multiple painless ulcers on tongue. The dysphagia was progressive and patient later on developed dysphagia for liquids also. Treatment for one month was taken and symptoms were not relieved.

There was past history of hemiparesis five years back and history of pulmonary tuberculosis 40 years back. He had taken prescribed regimen for tuberculosis and was relieved. There was no history of Diabetes Mellitus, hypertension or Sickle cell Anemia. Family History was not significant. He was chronic smoker for 30 years, 10-12 bidis/day (15 pack years).

On General Examination the patient was stable. Multiple cervical lymph nodes (<0.5cm) were present. On local examination, mouth opening and tongue movements were restricted (Mallampatti Score - III) with poor oro-dental hygiene. Oral cavity showed multiple white plaque over lateral and central part of dorsum of tongue with large ulcerated area in centre. Central Ulcer was having irregular margins with undermined edges & white slough at the center along with loss of papillae. Haematological (CBC), biochemical (Liver Function test, Renal Function Test) & Serological (HIV, HCV, HbsAg, VDRL) investigations were within normal limit. ESR was raised 50mm at the end of 1st hour. Chest X-ray showed heterogeneous opacity in right upper mid zone, reticulonodular opacity in bilateral lung field, ill-defined small patchy opacity noted in left upper zone, bilateral hilar prominence and blunting of right CP angle. Mantoux test was positive.

Trucut biopsy was taken from lesions on tongue and sent for histopathological examination. H&E stained, sections showed covering epithelium and sub-epithelium composed of multiple non-caseating granulomas. Ziehl Neelsen stain was negative on tissue sections.



Scrapings were taken from tongue lesions. Giemsa stain & Ziehl Neelsen stain (ZN) was done on scraping, and sample also sent for CBNAAT. Giemsa stained, smears showed Inflammatory cells with benign squamous epithelial cells with fungal spores & hyphae. No malignant cells were seen. ZN stain showed Acid Fast Bacilli (AFB). CBNAAT confirmed AFB as Positive for Mycobacterium tuberculosis. FNAC from neck nodes were done but it was inconclusive. Final diagnosis of Tuberculosis of Tongue (secondary) with superadded fungal infection was made. Patient was started ATT and lesions were healed gradually.

Discussion

Tuberculosis (TB) is a common infectious disease caused by Mycobacterium tuberculosis. Mycobacterium tuberculosis is rod shaped, non-motile, non-encapsulated, aerobic, non-spore forming acid fast bacilli. Other mycobacteria such as Mycobacterium bovis, Mycobacterium africanum, Mycobacterium canetti, and Mycobacterium microti can also cause tuberculosis, but these species do not usually infect healthy adults. Tuberculosis most commonly affects lungs but can affect any organ including central nervous system as tuberculoma or tuberculous meningitis, eye (uveitis), oral cavity, gastrointestinal tract, genitourinary tract, lymphatic system, circulatory system, bones & joints and skin.

TB is transmitted by aerosol droplets expelled by patient with the active disease of the lungs while coughing, sneezing, speaking or spitting. [12]

World Health Organization (WHO) estimates that approximately one third of the world's population are infected with tubercle bacilli. Nearly 8.6 million people around the world are infected with Tuberculosis. There were around 1.3 million TB-related deaths worldwide. The incidence of tuberculosis is growing at 1% each year.[13] India and China alone accounted for 26% and 12% of total cases, respectively [14].



Tuberculosis of the tongue is a very rare with a rate of 0.1%. [3, 15-23] Saliva is considered to have a significant role which explains the paucity of oral lesions, despite the large numbers of bacilli present in sputum contacting the oral mucosa in a typical case of pulmonary tuberculosis. The presence of a variable normal flora in addition to the presence of submucosal antibodies which gives normal resistance. The tongue does not contain any significant lymphoid tissue for which *Mycobacterium tuberculosis* organisms has a great affinity. [19, 24] Other attributing factors to relative resistance of oral cavity for TB are presence of saprophytes, resistance of striated muscles to bacterial invasion, and thickness of protective epithelial covering. It is believed that the organisms enter the mucosa through small breaches in the surface epithelium which makes it a favourite site for colonization of bacteria. Local factor that may facilitate the invasion of oral mucosa includes poor oral hygiene, leukoplakia, local trauma, and irritation by clove chewing. Self-inoculation by patient usually results from infected sputum or by hematogenous or lymphatic dissemination [25-27]. Predisposing factors include overcrowding, drug abuse, poor health and hygiene, poverty, immunosuppression in HIV [28]. Transmission during dental practice has also been described.[29]

Oral TB may involve palate, lips, buccal mucosa, gingiva, palatine tonsil, floor of the mouth, salivary glands, tonsils, and uvula but the tongue is most commonly affected. Primary oral TB can be present as painless non-healing ulcers of long duration and enlargement of the regional lymph nodes [30]. Majority of cases of glossal tuberculosis are secondary to pulmonary tuberculosis and rarely primary in origin. [4-9]. Tuberculosis of tongue is more common in middle aged males than females [31] The dorsal surface is more commonly involved. Most common presentation of tuberculosis of tongue is solitary ulcer usually developing along the lateral margins of the tongue which rest against rough, sharp, or broken teeth or at the site of other irritants. Patients with oral tubercular lesions often have a history of pre-existing trauma. Any area of chronic irritation or inflammation may favour localization of the *Mycobacterium* associated with the disease [32]. Deep tubercular ulcers of the tongue



are typical in appearance with a thick mucous material at the base. These tongue lesions are characterized by severe unremitting and progressive pain that profoundly interferes with proper nutrition and rest. Classically, tubercular ulcers of the tongue may involve the tip, lateral margins, dorsum, the midline, and base of the tongue. They are irregular, pale, and indolent with inverted margins and granulations on the floor with sloughing tissue [33]. Fissure, tuberculoma, diffuse glossitis or multiple ulcers are rare presentation of TB tongue.[34] Our patient had multiple ulcers on the dorsum of tongue.

The differential diagnosis of indurated tongue ulcers includes oral cancer (squamous cell carcinoma), lymphoma, salivary gland tumours and metastatic deposits. Other non-neoplastic differentials are traumatic ulcerations, aphthous ulcers and certain infections (such as primary syphilis, histoplasmosis and blastomycosis). The histopathological differential diagnosis of granulomatous lesions includes other orofacial granulomatous conditions such as sarcoid, Crohn's disease, deep mycoses, cat-scratch disease, foreign-body reactions, tertiary syphilis and Melkersson-Rosenthal syndrome.

It is difficult to differentiate oral TB from other conditions on the basis of clinical signs and symptoms alone. Histopathological examination is gold standard for diagnosis along with bacteriologic examination with culture. A biopsy of an oral lesion is confirmatory but in majority of the cases, a single biopsy may not suffice because the granulomatous changes may not be evident in early lesions. The lesion is eventually disclosed by repeat biopsies. Deeper biopsies are always advocated for ulcers of the tongue as superficial biopsy may not reveal the aetiology due to epithelial hyperplasia. The efficiency of demonstration of acid fast bacilli in histological specimens is low, as there is relative scarcity of tubercle bacilli in oral biopsies. According to various studies only a small percentage (7.8%) of histopathology specimens stain positive for acid fast bacilli. Therefore, a negative result does not rule out completely the possibility of TB. Another concern is the occurrence of mycobacterial infection as a part of AIDS. Histologically, an immunocompromised patient may not show granuloma



or caseation. This poses a potential problem in diagnosing tuberculosis. A radiological examination of chest and a Mantoux skin test are mandatory to rule out systemic TB. Fine-needle aspiration cytology is a highly specific and sensitive tool for identifying parotitis and/or TB in major salivary glands [35].

In our case, we found non-caesating granulomas on histopathological examination which was confirmed as tuberculous by CBNAAT and AFB examination. The X-ray chest was also suggesting lung involvement in our case.

Conclusion

Tuberculosis of tongue is very rare but always should be taken in consideration as Differential Diagnosis in cases of glossal lesions. It should be confirmed by histo-pathological examination and other ancillary techniques like CBNAAT, culture and AFB examination.



Figure 1- Oral cavity showed white plaque over lateral and central part of dorsum of tongue with large ulcerated area in Center. Central Ulcer was having irregular margins with undermined edges & white slough at the center Loss of papillae.



Figure 2- Oral cavity showed white plaque over lateral and central part of dorsum of tongue with large ulcerated area in centre Central Ulcer was having irregular margins with undermined edges & white slough at the center Loss of papillae.

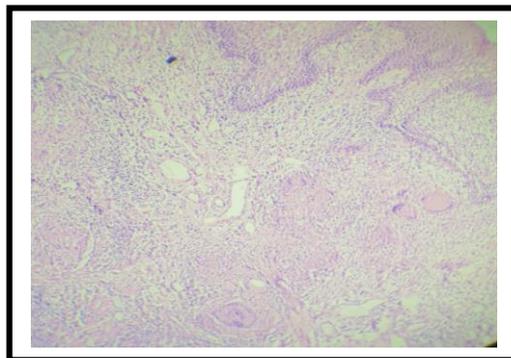


Figure 3- H&E stained section showed covering epithelium and sub-epithelium showing multiple non caseating granulomas. (H&E, 400X)

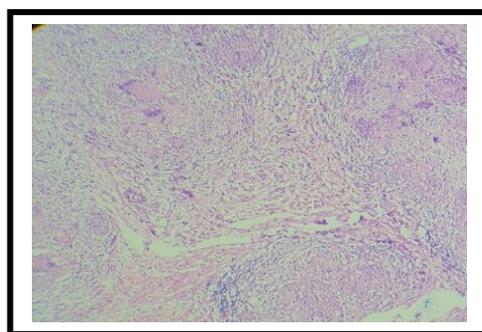


Figure 4- H&E stained section showed covering epithelium and sub-epithelium showing multiple non caseating granulomas. (H&E, 400X)

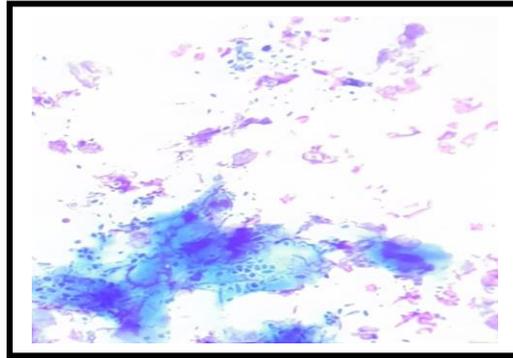


Figure 5- Giemsa Stained smears prepared from scrapping from tongue showed degenerated neutrophils, squamous cells, fungal spores & hyphae (Giemsa, 400X)



Figure 6- Ziehl Neelesen Staining of smears prepared from tongue scrapping showed Acid Fast Bacilli (ZN, 100X)

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