



## Tuberculosis masquerading as nodular mass in the tongue: A case report and literature review

**Dushyant Basera**

Resident, Department of ENT, RNT Medical College, Udaipur, Rajasthan

**Abhishek Mohan**

Resident, Department of ENT, RNT Medical College, Udaipur, Rajasthan

**H.S. Bhuie**

HOD, Department of ENT, RNT Medical College, Udaipur, Rajasthan

### ABSTRACT

Tuberculosis is one of the most common diseases in India resulting in significant morbidity and mortality. The clinical spectrum ranges from usual primary tuberculosis of the lungs to the rare lesions of oral cavity. Oral manifestations of tuberculosis are uncommon. Tongue is the most common oral site of involvement. Diagnosis is confirmed by histopathological examination. We are reporting a case of secondary tuberculosis of tongue, with rare presentation as a nodular mass with no pulmonary symptoms.

### KEYWORDS

Tuberculosis, primary, secondary, tongue, histopathological

### Introduction:

Tuberculosis is one of the most prevalent diseases in India. It is a chronic granulomatous disease caused by *Mycobacterium tuberculosis*<sup>1,2,3</sup>. Oral manifestation of tuberculosis is rare with an incidence of 0.1-1.4%. It could be primary tuberculous infection or secondary to pulmonary disease<sup>2,3</sup>. Soft tissues are more commonly involved than bony tissues. Of the oral soft tissues affected, the tongue is the most common site. Other sites include the floor of the mouth, soft palate, gingiva, lips and hard palate. The dorsal surface of the tongue is more commonly involved<sup>2,3,4,5,11</sup>. The clinical diagnosis is often difficult as index of suspicion is less than an ulcer, fissure or nodular mass in the tongue could be tubercular in origin. The diagnosis is made either by fine needle aspiration cytology or histopathological examination of a biopsy from the lesion<sup>6,8</sup>. Here we are reporting a case of secondary tuberculosis of tongue presenting as a nodular mass with no pulmonary complaints.

### Case Report:

A 50 year old male presented in ENT OPD with complaints of swelling over tongue for 20 days, pain in tongue during swallowing for 1 month, pain in both ears for 2 months and discharge from left ear for 2 months. He is chronic bidi smoker for past 25 years. There was no history of fever, weight loss, cough and expectoration. On examination there was a 4x2 cm size tender firm swelling present over dorsum of left half of anterior two third of tongue (fig. 1). Intra oral examination showed poor oral hygiene. On indirect laryngoscopic examination, there was no abnormality found. Routine blood examinations were within normal limits. Mantoux test was positive and he was positive for HBsAg. MRI of tongue showed ill-defined hyperintense lesion in the left anterior two third of tongue (fig. 2). Incisional biopsy of the lesion was taken, which showed Langhan's giant cells with lymphocytic infiltrates and epithelioid cells suggestive of tubercular chronic granulomatous lesion (fig. 3). After the histopathological examination, a chest X-Ray was done which showed bilateral fibrocavitary lesions and calcification in upper mid zones and left hilar region suggestive of possible Koch's chest (fig. 4). Patient was referred to DOTS centre for further management of tuberculosis and ATT was started, which resulted in the resolution of the lesion.

### Discussion:

The World Health Organization estimated that in 2013 there were 9 million incident cases of T.B. (range 8.6 million – 9.4 million) globally, equivalent to 126 cases per 100,000 population. As per Global TB Report 2014 published by the WHO incidence of TB in India in 2013 was 171 cases per 100,000 population<sup>7</sup>.

Tuberculous lesions of the oral cavity may be primary or secondary. The primary tuberculosis of the oral cavity is very rare but the secondary type occurs in those having pulmonary tuberculosis, affecting 0.05-0.5% of tuberculosis patients<sup>2</sup>. In primary oral tuberculosis the organisms are directly inoculated on the oral mucosa of a person who has not been previously infected. In secondary type, oral tuberculosis usually coexists with pulmonary disease. Secondary infection occurs due to haematogenous or lymphatic spread or from direct extension from neighboring structures<sup>2,6,9</sup>. The intact oral mucosa is believed to be resistant to tubercular infection due to cleansing action of saliva, presence of saprophytes, antagonism of the striated musculature to bacterial invasion and the thickness of a protective epithelial covering. Predisposing factors include poor oral hygiene, trauma, tobacco, irritation, dental extraction, pyogenic foci and leukoplakia<sup>2,9,10,11</sup>.

The oral lesions manifest as non healing ulcers, nodules, fissures, tuberculoma, tubercular papilloma, diffuse glossitis, cold abscess, verrucous proliferation, erythematous patches or plaques, indurated lesions or jaw lesions<sup>2,5,9</sup>. Tuberculosis of tongue almost always presents as a chronic, non healing ulcer but in our case it presented as a well defined nodular mass.

The diagnosis of tuberculosis in oral cavity is based on clinical findings, histopathological examination, sputum culture by presence of acid fast bacilli and chest X-Ray<sup>12</sup>. A newer diagnostic modality that can be used with a high specificity in the diagnosis of oral tuberculosis is polymerase chain reaction<sup>13</sup>.

Occasionally, the recognition of oral tuberculosis precedes the detection of pulmonary tuberculosis like in our patient. Our patient did not have respiratory or constitutional symptoms that could have raised suspicion for tuberculosis initially. Pulmonary tuberculosis was diagnosed only after the histopathological report of tongue mass showed features of tuberculosis.

Oral tuberculosis is to be differentiated from traumatic lesions, granulomatous disease, tertiary syphilis, aphthous ulcers, mycotic infections, sarcoidosis, Crohn's disease, malignancies, foreign body reactions and Melkersson Rosenthal syndrome<sup>2,3,8,9,10,14,15</sup>.

Patients with tongue tuberculosis respond well to antitubercular therapy because tongue is highly vascular. In most cases, tongue lesions heal completely within a few months, as it did in our case<sup>10</sup>.

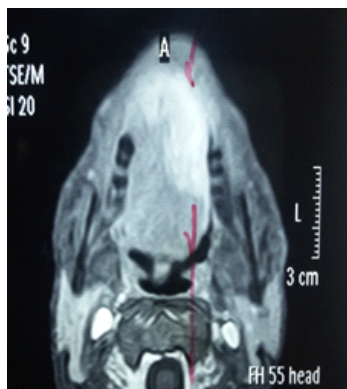
### Conclusion:

Tuberculosis of tongue is a rare condition and a nodular presenta-

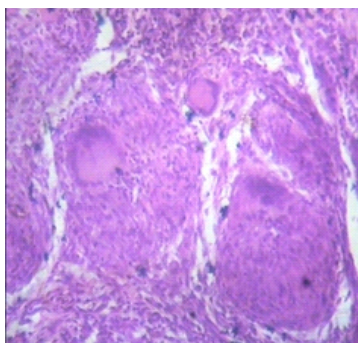
tion is even rarer. Tuberculosis should be kept in the differential diagnosis of a tongue mass in the scenario where tuberculosis is endemic, even if there are no pulmonary or constitutional symptoms.



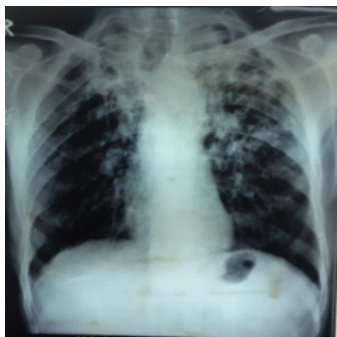
**Figure(1)- Nodular tongue lesion.**



**Figure (2) - MRI showing ill-defined enhancing lesion in the left anterior two-third of tongue.**



**Figure (3) - Histopathology showing Langhan's giant cells with lymphocytic infiltrates and epithelioid cells.**



**Figure (4) - X-Ray chest showing bilateral fibrocavitary lesions and calcification in upper mid zones and left hilar region suggestive of Koch's chest.**

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