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Primary tuberculosis of the tongue in an immunocompetent patient: A case report

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ABSTRACT

Tuberculosis is a chronic granulomatous disease which can affect any part of the body. Lung is the most common site of primary disease, however it can occur in other organs as well specially in immunocompromised state. Secondary spread occurs from a healed primary focus or due to endogenous spread of the infection. Oral manifestations of tuberculosis are usually secondary to infection of other parts of the body. Primary tuberculosis of the oral cavity including that of the tongue is rare. Here we present the case of a fifty year old patient presenting with growth on tongue which on histology and Ziehl–Neelsen staining was proved to be tuberculosis.

1. Introduction

Tuberculosis is a chronic granulomatous disease that can affect various systems of the body. It is caused mainly by *Mycobacterium tuberculosis*, *Mycobacterium bovis* and other atypical mycobacterial species^[1]. Pulmonary tuberculosis is the most common primary form of the disease. However it can occur in lymph nodes, meninges, kidneys, bones, skin and the oral cavity. Secondary tuberculosis occurs from a healed primary focus or due to endogenous spread of the infection. Both primary and secondary tuberculosis can occur in the oral cavity which accounts for 0.2 to 1.5% of all cases of extrapulmonary tuberculosis. Primary tuberculosis of the oral cavity is exceedingly rare with the tongue being the most commonly affected site. Tuberculosis of the tongue usually presents as a chronic non healing mucosal ulceration but may occur as nodules, fissures, plaques or verrucous proliferation^[2,3].

2. Case history

A fifty year old male patient presented in the outpatient

department as he was experiencing considerable difficulty in speaking and swallowing since one year on account of restricted movements of his tongue due to a growth on the right side. On further interrogation it was found that he was a truck driver by occupation and was not feeling well since the past one year although there was no documented history of fever, weight loss or any chronic illness.

Local examination revealed poor oral hygiene and showed a growth measuring 2.0×1.5 cm on the right lateral border of the tongue with nodular elevated areas and ill defined borders. The tongue movements were restricted. An ipsilateral firm non tender mobile lymph node measuring 1.5×1.0 cm was also noted. Biopsy from the growth was performed which showed multiple grey white to grey brown soft tissue pieces measuring together $0.8 \times 0.7 \times 0.2$ cm. Microscopic examination revealed hyperplastic stratified squamous epithelium overlying numerous epithelioid cell granulomas with Langhan's giant cells, lymphocyte infiltration and foci of caseous necrosis (Figure 1). Ziehl Neelsen staining for acid fast bacilli using 20% sulfuric acid showed numerous atypical bacilli conforming to the morphology of mycobacteria (Figure 2). The patient was advised to get his immune status investigated. His HIV test in the voluntary testing center of our hospital by rapid tridot test was non-reactive.

This was therefore a case of primary tuberculosis of the tongue without an immunocompromised state at first presentation^[1,3]. There are isolated case reports of primary tuberculosis in literature involving the palate and tongue.

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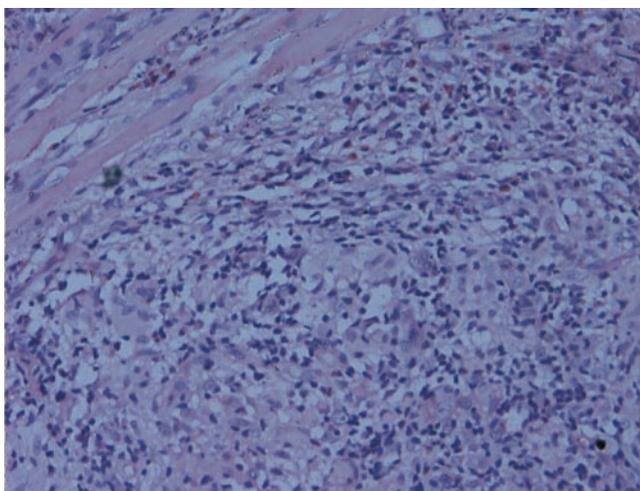


Figure 1. Epithelioid cell granulomas with peripheral lymphocytic infiltrate.

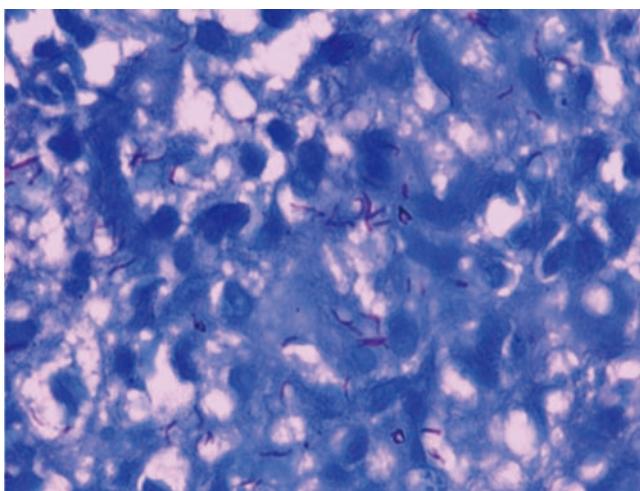


Figure 2. Ziehl-Neelsen staining for acid fast bacilli using 20% sulfuric acid showing numerous acid fast bacilli conforming to the morphology of mycobacteria.

3. Discussion

Tuberculosis can affect any part of the body besides the lungs. Oral manifestations of tuberculosis are usually secondary to infection of other parts of the body. As early as 1940 Farber *et al* indicated that less than 0.1% of tuberculous patients exhibited oral lesions^[4]. There are isolated case reports of primary tuberculosis in literature involving the palate and tongue where the lesions may present clinically as glossitis or ulcers and masquerade as neoplasms. Furugen *et al* searched sixteen recent cases of tuberculosis of tongue in Japan and found that there was increased incidence if the patients harboured concurrent sputum positive pulmonary tuberculosis and there was delay in diagnosis^[5–7].

Kumar *et al* described a case of primary lingual tuberculosis diagnosed by fine needle aspiration cytology (FNAC) in an immunocompetent patient^[8]. Memon *et al* found a case of primary lingual tuberculosis which was diagnosed after second biopsy, the initial biopsy was non-specific inflammation^[9]. David *et al* described the value of FNAC in the initial evaluation of floor of the mouth masses^[10].

Primary tuberculosis of the oral cavity including that of the tongue is rare. A breach in the mucosa due to any reason is an important predisposing factor. It has been

suggested that tongue involvement usually occurs due to contact with infected sputum or by blood spread or by direct contamination from neighbouring tuberculous focus in the oral cavity. The systemic factors that can be associated with an increased incidence of oral infection in tuberculosis including lowered host resistance and increased virulence of the organisms. On the tongue the common sites of tuberculosis are the lateral border, tip, anterior dorsum and the ventral surface.

Oral tuberculous lesions may take the form of nodules, ulcers and elevated fissures. Ulcers are irregular, have undermined edges, increase gradually in size and are painful. Clinically the diagnosis of oral tuberculosis is not possible and sometimes imaging investigations are not helpful. In such cases histopathology provides a definite diagnosis. The differential diagnosis of acute tongue swellings includes a number of entities such as tumour, cyst, infarction, edema, infection, haemorrhage and metabolic diseases (amyloidosis, hypothyroidism, acromegaly, B12 deficiency, and iron deficiency) and developmental processes^[11].

Tuberculosis of the tongue is to be differentiated from non-specific ulcerative lesions, traumatic lesions and malignant lesions which can be primary or metastatic.

Tuberculosis of the tongue especially the primary form is a rare entity. Diagnosis is by finding necrotizing granulomas and is confirmed by demonstrating acid fast bacilli of *Mycobacterium* species. Extrapulmonary tuberculosis is mostly seen in the immunocompromised population but can occur in otherwise healthy individuals also.

Conflict of interest statement

We declare that we have no conflict of interest.

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