

TUBERCULOUS ULCER INVOLVING BUCCAL MUCOSA: DIAGNOSTIC DILEMMA-A CASE REPORT

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ABSTRACT

Tuberculosis, a chronic infective granulomatous disease, is still one of the most prevalent disease in developing countries. Globally effectiveness of DOTS therapy, vaccination, and education has led to the decreased prevalence of tuberculosis in recent years, although pulmonary and extra-pulmonary tuberculosis, especially the tubercular lymphadenitis, is still relatively common in the developing countries like India; but rarely affects oral cavity. Here, a case of an elderly female is presented with the complaint of non-healing ulcer of right buccal mucosa of 6-months duration mimicking squamous cell carcinoma. Incisional biopsy followed by histopathological evaluation revealed a chronic granulomatous infective disease which was later confirmed to be tuberculosis. The purpose of this presentation is to sensitize clinicians to consider oral tuberculosis in differential diagnosis of patients with non-healing oral ulcer.

KEYWORDS

Tuberculosis, Buccal mucosa, Squamous cell carcinoma.

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INTRODUCTION

Tuberculosis [TB], a chronic infective granulomatous disease is mostly prevalent in the developing countries, caused by acid fast bacillus *Mycobacterium Tuberculosis*, usually affecting the lungs. 10 – 35% of the cases are detected in the head and neck region¹.

Global burden of TB is about 14 million and 9.4 million people develop the disease every year. Incidence of tuberculosis in India is 67/100000 per year and prevalence is 250/100000 per year. Approximately 2 million people develop tuberculosis every year, accounting for one fifth of the global incidence². However oral manifestation of tuberculosis is rare with an incidence of 1.4% of total cases with male to female ratio of 4: 1 and in poor socio-economic classes^{3,4}

Tuberculous lesions of the oral cavity may be either primary or secondary to pulmonary tuberculosis, the latter being more common.⁵ The typical oral lesions consist of a stellate ulcer, most commonly on the dorsum of the tongue, other sites being gingiva, floor of mouth, palate, lips and buccal mucosa.^{6,7}

Oral tuberculosis is often mistaken for other diseases like malignancy⁸. Such a case is presented herewith.

CASE REPORT

A 60 years old female patient from rural area reported to the Department of Oral & Maxillofacial Pathology, GNIDSR, with a complain of non-healing, painful ulcer involving right buccal

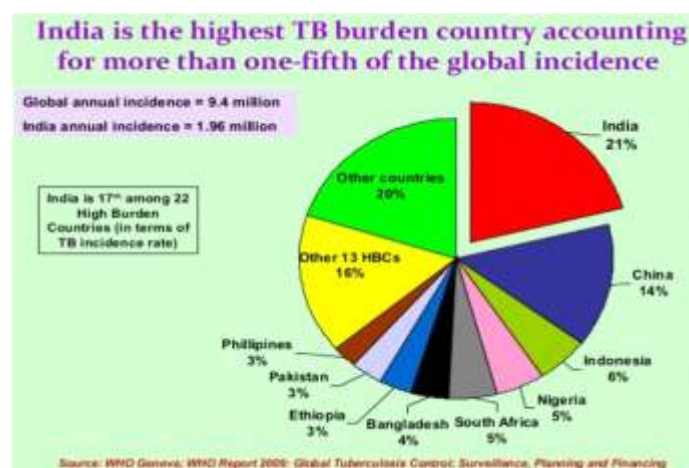




Figure 1



Figure 2



Figure 3

mucosa since 6 months along with right submandibular lymphadenopathy and progressive malaise for over 3 to 4 months.[Figure 1& 2]. She took several courses of antibiotics, anti-inflammatory and multivitamin drugs, but without marked clinical improvement. General examination of patient revealed no obvious abnormality and medical history was also non-contributory. There was no history of fever, weight loss, cough and expectoration.

Intra-oral examination revealed poor oral hygiene and presence of a solitary shallow ulcer measuring 2cmx2 cm involving right buccal mucosa, with irregular margins, extending to the vestibule adjacent to mandibular molars while the ulcer base had areas of granularity with occasional sloughing. On palpation, mild tenderness and induration was noted at the border of the ulcer.[Figure 3]

Haematological parameters were within normal limits except elevated erythrocyte sedimentation rate (ESR) [1st hour 130 mm] and low haemoglobin [8.8gm/dl] levels. A provisional diagnosis as malignancy was made and incisional biopsy was performed.

The light microscopic evaluation of the Hematoxylin and Eosin stained sections revealed the presence of parakeratinized stratified squamous surface epithelium, ulcerated at places, with the underlying fibrovascular connective tissue stroma. The epithelium revealed pseudoepitheliomatous hyperplasia at places. [Figure 4]. The connective tissue was characterised by an intense chronic inflammatory cell infiltration chiefly consisting of lymphocytes and macrophages. Clumps of epithelioid cells could also be noted at places along with presence of numerous giant cells dispersed in the connective tissue stroma characterised by pale eosinophilic cytoplasm with multiple nuclei arranged in horse shoe pattern, resembling Langhan's type of giant cell. [Figure 5,6]. The overall light microscopic features are suggestive of "SPECIFIC INFECTIVE GRANULAMATOUS LESION".

Ziehl-Neelsen (ZN) staining for AFB on microbial smear (expectorated sputum) and tissue section, along with Chest Radiograph [Figure 7] and Mantoux test were non-contributory.

Polymerase Chain Reaction (PCR) was

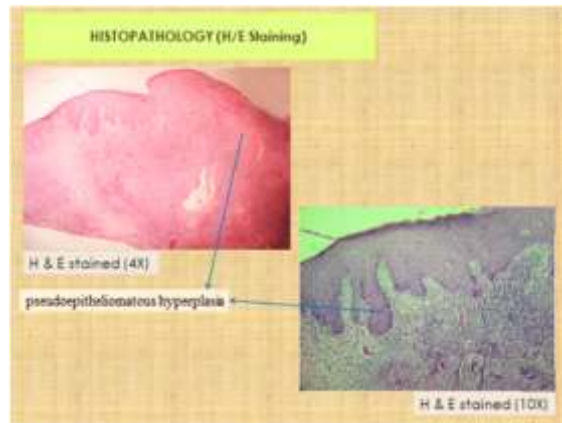


Figure 4

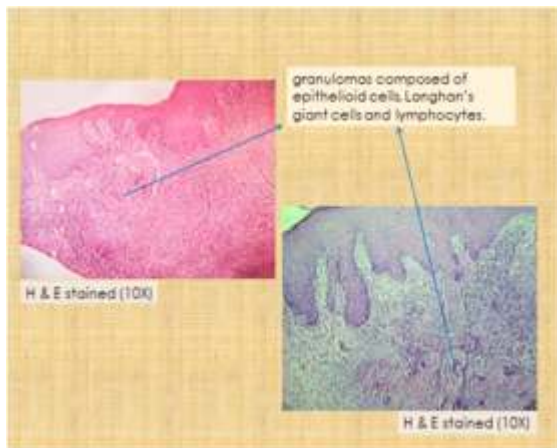


Figure 5

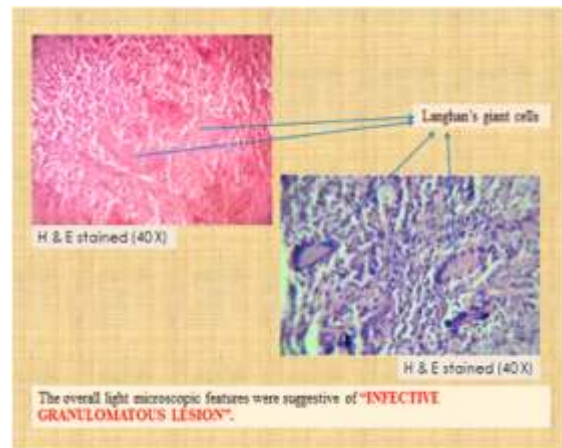


Figure 6



Figure 7: Chest radiograph (PA view) showing normal findings

TEST	RESULT	REFERENCE RANGE	UNITS
TB DNA PCR (Tissue)			
+ Specimen (Tissue)			
Mycobacterium tuberculosis Complex (Tissue)	Positive (see the 10)	Indeterminate	
Non-tuberculous Mycobacteria (Tissue)	Not detected		
Normality (see the 10)			
INTERPRETATION: (TB DNA PCR)			
RESULT:	Mycobacterium tuberculosis complex - Detected		
Species: M. tuberculosis			
M. goodii, M. neoaurum & M. indicus			
COMMENT:	Specimen likely with any of the following		

Figure 8

considered which yielded positive results which confirmed the diagnosis of TUBERCULOSIS. [Figure 8].

DISCUSSION

Tuberculosis is caused by Mycobacterium tuberculosis, which is an aerobic, non-motile, non-capsulated, non-spore forming rod shaped microorganism. Tuberculous lesions of the oral cavity may be primary or secondary.^{1,8} Primary tuberculosis of the oral cavity is relatively rare, as it occurs in young individuals and is associated with cervical lymphadenopathy. While secondary

tuberculosis usually occurs following pulmonary tuberculosis, affecting 0.05–0.5% of patients, it is more common than the primary variety and occurs more often in old age.^{3,9}

Tuberculous lesion of the oral cavity is rare because the intact mucosa is resistant to tuberculous infection and saliva has a protective effect.^{3,9,10} Other possible causes for the relative rarity of oral tuberculosis include the presence of saprophytes in the oral cavity and resistance of stratified muscles to bacterial invasion.¹¹

Tuberculous bacilli reach the oral cavity either by infected sputum or haematogenous route. Small abrasions caused by chronic irritation, from sharp and broken carious teeth, favour localisation of

tubercular bacilli. Other predisposing factors include poor oral hygiene and dental extraction.^{11,12}

Oral tuberculosis most commonly affects the tongue. Other sites include the gingiva, soft palate, lip, buccal mucosa, floor of the mouth, and gingivobuccal sulcus.^{13,14} The oral lesions may present in various forms, such as ulcers, nodules, fissures, papilloma, tuberculomas and periapical granulomas. The typical presentation is that of a single indurated painful ulcer with irregular borders covered by inflammatory exudates.^{7,14} In the present case, patient presented with painful ulcer characterized by irregular indurated borders and granular base with areas of sloughing, involving right buccal mucosa with respect to molars.

The ulcer is usually formed by breakdown of tubercles resulting in an undermined edge. Occasional clinical presentation may mimic malignancy, as being nodular and ulcerated are typical of tuberculosis. Tubercular ulcers are usually more irregular than punched out lesions of carcinoma.^{7,15,16} In the present case the ulcer had rolled margins with induration mimicking epithelial malignancy of buccal mucosa. The differential diagnosis of a tubercular ulcer of the oral cavity includes aphthous, traumatic, syphilitic and malignant ulcer, including primary squamous cell carcinoma, lymphoma and metastasis lesions, hence the dilemma.^{6,9}

As presented here, the most likely clinical diagnosis was in favour of malignancy, in which case biopsy is mandatory. It is most likely that tuberculosis is only considered when the histological specimen reveals a granulomatous lesion. Other mimics of granulomatous inflammatory conditions in oral cavity are sarcoid, Crohn's disease, deep mycoses, cat-scratch disease, foreign-body reactions, tertiary syphilis and Melkersson-Rosenthal syndrome.^{17,18,19} Histopathologically, the present case revealed the presence of epithelioid cells and Langhans type of giant cells in the connective tissue stroma. The epithelium revealed areas of pseudoepitheliomatous hyperplasia, which is one of the important frequently encountered epithelial changes.^{2,8,4}

In the absence of immunological and radiographic confirmation of the disease, modern day PCR assay confirms, even if, there is minimal bacterial load as was in the present case.^{2,14}

CONCLUSION

Chronic oral ulcer like tubercular lesions are rare, difficult to diagnose, hence requires proper clinico-pathological correlation as many of them mimic intraoral malignancies, therefore demand differentiation backed by a detailed history and specific investigations.

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