



Atypical Presentation of Oral Tuberculosis Ulcer

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Abstract

Tuberculosis is a chronic infectious disease that can affect any part of the body, including the mouth. An upsurge in the number of tuberculosis cases, with a strong association with HIV infection, has been noted. We present a case of tuberculosis that clinically resembles a malignant chronic ulcer in the retromolar trigone—an uncommon site of occurrence. Histologically, the case demonstrated an atypical epitheloid granuloma with reduced lymphocyte count. The diagnosis of tuberculosis was confirmed following sputum culture of *M tuberculosis*. Antitubercular therapy improved the patient's condition. Although rare, tuberculosis must be considered as a differential diagnosis in chronic ulcers in the oral region; and its association with HIV must not be overlooked.

TUBERCULOSIS (TB) has been a worldwide health problem for centuries. Although the disease's prevalence was reduced decades ago, there has been an increase in the number of cases since 1985.^{1,2} Thirty percent to sixty percent of all cases occur in developing

countries. The plausible reasons for this increase may be: lack of public health efforts to control TB following its elimination; the epidemic of HIV infection; increase in poverty and the large number of people in crowded shelters; and development of multi drug-resistant species of bacteria.

The oral mucosa is a rare location for TB infection. TB may be either a primary or a secondary infection.^{1,3} Primary oral TB lesions are extremely rare, generally occur in young patients and are associated with cervical lymphadenopathy. Primary lesions remain painless in the majority of cases and are manifested in immunocompromised conditions (e.g., HIV infection) more frequently than its secondary counterpart.⁵

Secondary lesions are more common and are mostly seen in older people. The oral manifestations of TB are superficial ulcers, patches, indurated soft tissue lesions or even lesions within the jaw that may be in the form of TB osteomyelitis or simple bony radiolucency. Of all these oral lesions, the ulcerative form is the most common. It is often painful, with no caseation of the dependant lymph nodes.^{1,3}

Oral lesions of TB are nonspecific in their clinical presentation and often are not considered in differential diagnosis, especially when oral lesions are present before systemic symptoms become apparent.

We report a case of secondary tuberculosis and its association with HIV. The case is characterized by an atypical epitheloid granuloma with a paucity of lymphocytes.

Case Report

A 25-year-old male patient was referred to the outpatient department of Manipal College of Dental Sciences in Mangalore for evaluation of a non-healing ulcer in the right retromolar region.

The patient first noticed the lesion in the lower right posterior tooth region 10 to 15 days prior to his visit. In addition, he presented with a history of weight loss, continuous cough with yellowish, fetid-smelling sputum for seven to eight months, and an intermittent low-grade fever.

Extraoral examination revealed enlarged, tender cervical lymph nodes bilaterally. Oral examination revealed poor oral hygiene. A painful, necrotic granular ulcer was observed extending from the right retromolar area to the soft palate on the right side. The ulcer had an indurated base and everted margins. The uvula was not deviated. A deep periodontal pocket was noticed in relation to teeth #47 and #48, and pericoronitis was exaggerated by the ulceration.

Histopathological examination of an incisional biopsy revealed hyperplastic, parakeratinised, stratified squamous epithelium showing pseudo-epitheliomatous hyperplasia and areas of ulceration. Connective tissue was moderately dense with foci of caseation necrosis associated with follicles of epithelioid cells and a sparse number of lymphocytes (Figures 1 & 2). A few Langhans giant cells and macrophages were seen. AFB staining was negative. On blood examination, the patient's total WBC count was 9400 cells/dl, and the differential count was N-89, L-7, E-1 and M-3. Rapid assay tests for HIV were negative. FNAC of the cervical lymph nodes showed predominantly RBC's. The diagnosis of pulmonary tuberculosis was confirmed by the culture of *M. tuberculosis* from three consecutive sputum samples.

A category II chemotherapeutic antitubercular regimen was initiated. The patient's response to the antitubercular regimen was good, and patient continues to be followed.

Discussion

TB is a systemic disease with worldwide distribution. Its oral manifestations are well documented in the literature.^{1,2} In the pre-antibiotic era, oral TB prevalence was <1% of the pulmonary TB. However, a frequency of 0.05-1.5% among patients with TB was reported in 1996.³ With advances in chemotherapy, there has been a marked decrease in the general incidence of TB, and oral cavity involvement is now rare.

Oral TB usually coexists with pulmonary disease. Primary oral TB is common in children and adolescents. Most often it involves the gingiva, mucobuccal folds and inflammatory foci adjacent to the teeth or extraction sites; and it is often associated with enlarged cervical lymph nodes.^{1,3}

Secondary oral TB may occur in all age groups; however, middle-aged and older people are more likely to have oral manifestations of the disease, and the lesions are almost always painful.³ The dorsum of the tongue is the most common site of occurrence, fol-

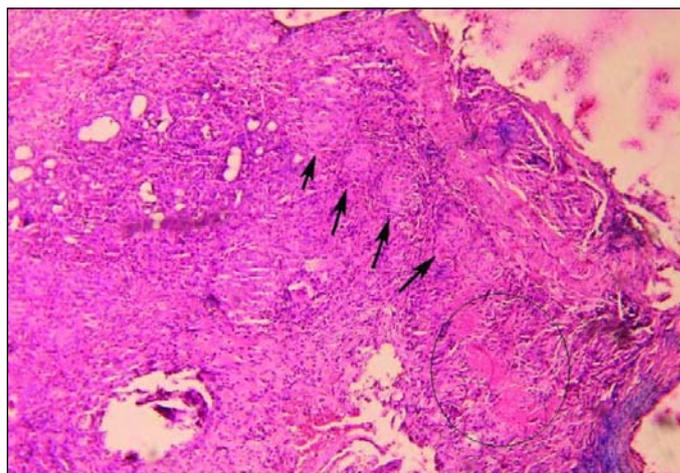


Figure 1. Caseation (circle) and epithelioid granulomas (arrows) (H & E) ; 100x.

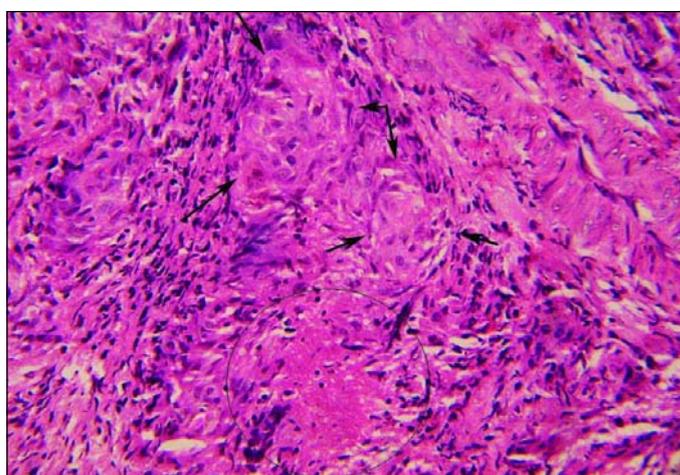


Figure 2. Caseation (circle) and epithelioid granulomas (arrows) (H & E); 400x.

lowed by the palate, buccal mucosa and lips. Salivary glands, tonsils and uvula are also frequently involved. The retromolar region is rarely involved. Secondary lesions of the mandibular ridge (alveolar mucosa) are extremely rare.

The clinical presentation of our case suggested a strong possibility of malignancy, probably squamous cell carcinoma. Blood tests were within normal limits except for a raised ESR (60mm/hour). TC was within normal limits (9400 cells/dl), but the lymphocyte count was markedly reduced (DC, N-89, L-7, E-1, M-3). The blood picture suggested that the patient was immunocompromised. Patients with a lower total lymphocyte count are more likely to get the disease than those with a higher count.⁴

It is believed that intact squamous epithelium of the oral mucosa serves as a barrier to the entry of the TB bacilli. This has been attributed to the cleansing action of the saliva; the presence of salivary enzymes, tissue antibodies and oral saprophytes; and the thickness of the protective epithelium. However, small breaches in the mucosa, caused by chronic irritation or inflammation, may be favorable sites for colonization of organisms.

In our case, the presence of a periodontal pocket and pericoronitis might have aggravated colonization in the retromolar region.

Even though the clinical appearance of the lesion suggested malignancy, the presence of epitheloid granulomas with Langhans giant cells suggested a granulomatous lesion. Several infectious and non-infectious conditions (e.g., malignancies, Sarcoidosis, syphilis, aphthous lesions, mycotic infection, traumatic injury, Wegeners granulomatosis, cat-scratch disease, tularemia, foreign body lesion) may also produce similar granulomatous lesion.^{1,2,3} 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 studies by Cutler et al. (1994), only a small percentage (7.8%) of histopathology specimens stain positive for AFB.⁶ Therefore, a negative result does not rule out completely the possibility of tuberculosis.

Another concern is the occurrence of mycobacterial infection as a part of AIDS. The low counts of lymphocytes and atypical non-caseating epitheloid granuloma seen in the histology of this case indicated an immunocompromised state. Histologically, an immunocompromised patient may not show granuloma or caseation. This poses a potential problem in diagnosing tuberculosis. Though the patient in the case presented here tested negative for rapid assay, HIV infection cannot be completely ruled out. Further confirmatory investigation with western blot to rule out AIDS could not be performed due to lack of patient cooperation.

HIV-1-associated TB is reaching epidemic proportions in many African countries. The prevalence and incidence of tuberculosis is similar in both HIV-positive and HIV-negative individuals,

but the risk of active tuberculosis was elevated only for seropositive subjects.^{1,2,5,6,7}

Increasing problems with tuberculosis may well continue because of the continuing emergence of multi-drug resistant strains of *M. tuberculosis* (MDR-TB), which is a major threat, particularly with HIV- and AIDS-infected patients, among whom, mortality rates are high.

With the increasing number of TB cases, unusual forms of the disease in the oral cavity are more likely to occur and be misdiagnosed. Although rare, doctors and dentists should be aware of the oral lesions of tuberculosis and consider them in the differential diagnosis of suspicious oral ulcers. ■

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