

Oral tuberculosis involving maxillary gingiva

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ABSTRACT

Tuberculosis (TB) is a communicable disease caused by *Mycobacterium tuberculosis*, which is transmitted by aerosolized saliva droplets among individuals in close contact with expelled sputum of a diseased patient. However, TB lesions of the oral cavity are often overlooked in the differential diagnosis. We report here a case of tuberculosis of oral cavity affecting the gingiva of a 24-year-old male.

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INTRODUCTION

Tuberculosis (TB) is an infectious disease, which is transmitted by inhalation of infective droplets that have been expelled into the air by a patient with active TB. Very rarely, TB is caused by exposure to *Mycobacterium bovis* through ingestion of infected cow milk.^[1,2] TB most commonly affects the lungs, with secondary infection to other organs and tissues. In the maxillofacial region, it involves the tongue lips, followed by gingiva, buccal mucosa, and jaw bones.^[3] Oral tuberculous lesions may be either primary or secondary to pulmonary TB^[4] with secondary lesions being more common. They usually consist of a radiating ulcer, which may have undermined edges and a granulating floor. Sometimes the ulcer may be ragged and indurated and are very painful. Secondary lesions associated with pulmonary disease are usually seen in patients of any age group but more common in middle-aged and elderly patients.^[5]

CASE REPORT

A 24-year-old male patient reported to the Department of Oral Medicine with the chief complaint of non-healing

ulcer on the gingiva since four months [Figure 1]. The lesion did not heal in spite of administration of antibiotics. He also complained of difficulty in deglutition. His medical history revealed that he had persistent cough for last 6 months and had hemoptysis once during this course. On examination, patient appeared to be poorly nourished and unwell with right submandibular lymph node being palpable and mobile. The intraoral examination revealed large irregular ulcer on the right maxillary gingiva in relation to 11–16 tooth region on the labial aspect, approximately 2 × 4 cm in size. Floor was covered by necrotic slough surrounded by erythematous area. On palpation the lesion was tender with ill-defined margins. His blood picture showed hemoglobin 7.6 gram % total leukocyte count 13,800/mm³, and serologic test for human immunodeficiency virus being non-reactive. Mantoux test was performed which came out to be positive, hence a provisional diagnosis of a tubercular ulcer was made. Incisional biopsy of ulcer was done under local anesthesia and tissue was sent for histopathological examination, which showed chronic granulomatous inflammation consisting of epithelioid cells, Langhans giant cells [Figure 2] near the vicinity of endothelial-lined blood vessels. Within these, multinucleated type of giant cell's nucleus was arranged at periphery in a horseshoe shape. Thus findings were very suggestive of granulomatous infection like tuberculosis sarcoidosis or fungal infection. Periodic acid Schiff was negative and acid-fast bacilli were positive in Ziehl–Nelsen (ZN) stain. Hence on the basis of above findings, a diagnosis of oral tuberculous ulcer was confirmed. With these unusual findings the patient was advised for a chest X-ray, which showed it

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Figure 1: Photomicrograph showing ulcer on right maxillary gingiva

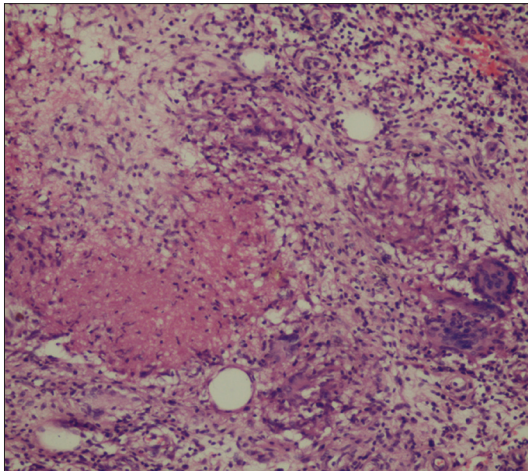


Figure 2: Photomicrograph showing granuloma with langhans type of giant cells (H and E) 10x

to be pulmonary TB. The patient was later administered antitubercular regime, and within 3 months of therapy, lesion healed spontaneously. No recurrence was observed even after 6 months of follow-up.

DISCUSSION

TB is a chronic infectious granulomatous disease caused by *Mycobacterium tuberculosis*,^[6] which is a non-spore forming aerobic, slender, non-motile, non-encapsulated organism with size ranging from 2 to 5 μm .^[7] Oral lesions are relatively rare with 3% of cases involving long-standing pulmonary or systemic infections^[4] and was similar to our findings. Although primary oral lesions are low because of an intact oral mucosa, cleansing action of saliva, salivary enzymes, tissue antibodies and oral saprophytes act as barriers to microorganisms. Hence any breach in the defense mechanisms, such as abrasions, tears, chronic inflammation, poor oral hygiene, tooth eruption, extraction sockets, periodontal disease, and carious teeth

with pulp exposure may lead to infection by bacilli.^[4,8] In the present case report, the sputum examination was positive, indicating active primary lesion. The oral mucosal lesion presented with multinucleated Langhans giant cells along with the positive ZN staining for acid-fast bacilli. Therefore, this lesion may have resulted from primary bacteria that lodged in oral mucosa from either infected sputum or the hematogenous route. TB of the jaw may also cause slow necrosis of the bone^[9] with no characteristic radiographic appearance; lesions are also indistinguishable from those caused by pyogenic organisms.^[10] Gradually the bone is replaced by soft tuberculous granulation tissue. Caseation appears at the area followed by softening and liquefaction. Traditionally, the diagnosis of TB have been made on the basis of clinical findings and confirmed by sputum or tissue smears that show AFB bacilli. These methods remain the auxiliary tool for diagnosis, but the development of advance diagnostic techniques may allow more sensitive and rapid diagnosis.^[11] This case report emphasizes on the importance of histopathological diagnosis in lesion's refractory to routine treatment of which TB is one. If detected early, the changes can be without much destruction and there should be prompt initiation of an effective therapy.

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