

## Oral Tuberculous Granuloma Involving the Alveolar Bone Case Report

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## Abstract

*This case reports tuberculosis in the oral mucosa and gingival in a 77 years old Sudanese male, Involvement of oral cavity in TB is quite rare. Oral lesions seem to occur as chronic ulcers, nodular or granular areas. Most extra-pulmonary lesions represent secondary infections of a primary lung infectious focus; therefore, early and accurate diagnosis is required for planning of the best treatment and strategies to control the disease.*

**Keywords:** Oral tuberculosis, Caseating granuloma, Painless nodular swelling

## Introduction

Tuberculosis (TB) is a chronic infectious disease caused by *Mycobacterium tuberculosis*. Most often it affects the lungs, although some patients present the disease in other sites. Extra-pulmonary TB accounts for 25% of the cases with 10-35% detected in the head and neck region [1,2]. Oral lesions may be primary or secondary. In primary disease, the mouth can be the initial site of infection which is rare and is more likely to occur in younger rather than older adults. Secondary TB arises subsequent to TB from another site and thus may reflect oral inoculation with sputum or haematogenous spread of mycobacteria and usually occurs in all age groups [3,4]. Oral tuberculosis lesions are quite rare and it is estimated that only 0.05-5% of total tuberculosis cases may be presented with oral manifestations. Clinically, oral tuberculosis may present as an ulcer, erythematous patches, granulomas, salivary gland involvement, tuberculous lymphadenitis or tuberculous osteomyelitis of the jaws [5]. The most common sites of involvement for oral lesions are the tongue tip, dorsum, lateral borders and base and palate; however, Floor of the mouth, soft palate, gingival, lips and hard palate can be involved [6,7]. Each year, about 8 million people develop TB, 2 million people have a latent form of the disease and 3 million people die from TB [6]. The present case-report describes oral manifestation of secondary TB in an old male patient.

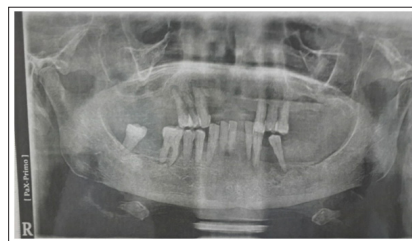
## Case scenario

A 77 years old Sudanese male came to oral and maxillofacial surgery clinic complaining from a painless mucosal and gum changes discovered incidentally during routine oral screening. Regarding the Past medical history, the patient has Tuberculosis for more than 4 years, patient started the treatment but he discontinued the regimens by himself after one week and reluctant to return to it. In the Social history patient denied any history of smoking, snuff dipping and

alcohols. Thorough clinical examinations revealed a painless mucosal nodular diffuse swelling, folding, corrugations and deep pouch in the labial and lingual mucosa and gingival in the lower jaw. A noticeable poor periodontal status and mobility grade III of the left mandibular teeth (Figure 1). There was a palpable, slight tender submandibular or cervical lymph nodes. Investigations: ESR (more than 3 figures), tuberculin test, Chest X-Ray and PCR, all were diagnostic for Tuberculosis. Histopathological examination of incisional biopsy showed non caseating granuloma and fibrosis without any evidence of dysplasia or cellular atypia. DPT x-ray showed severe bone loss and floating mandibular teeth (Figure 2). Patient was referred for tuberculosis centre for medical treatment after consultation of his physician and schedule for regular follow-up.



**Figure 1:** Showed mucosal nodular diffuse swelling, folding, corrugations and deep pouch. A noticeable poor periodontal status and mobile grade III left mandibular teeth



**Figure 2:** DPT x-ray showed severe bone loss and floating mandibular teeth

## Discussion

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, which are almost always painful. It present commonly as an ulcer, with irregular edges and minimal in duration. The base of an ulcer may be granular or covered with pseudo membrane. The dorsal surface of the tongue is affected most commonly, followed by the palate, buccal mucosa and lips. The salivary glands, tonsils and uvula also are involved frequently. Secondary lesions of the mandibular ridge (alveolar mucosa) are extremely rare [4,8,9]. In this case report the oral manifestation of TB appears as painless mucosal nodular diffuse swellings in the mucosa and gingival involving the alveolar ridge and mucosa which it's a quite rare area manifestation.

TB oral manifestations are rare due to inability of *M. tuberculosis* to invade the intact mucosa of oral cavity or pharynx, because of the Cleansing action of saliva, the presence of salivary enzymes, tissue antibodies, oral saprophytes and the thickness of the protective epithelial covering have been proposed as the defensive mechanism. Any break or loss of these natural barriers, which may be the result of trauma, inflammatory conditions, tooth extraction or poor oral hygiene, may provide a route of entry for the mycobacterium in the primary forms of the disease while for the secondary form the pulmonary bacilli are transmitted to secondary lesions via the lymphatic and haematogenous route [8]. In this case the patient had a poor oral hygiene; this may enhance the inoculation of bacteria in the oral mucosa, beside although it's a secondary oral lesion then the lymphatic and haematogenous spread may play a major role.

Jaw bones are rarely involved in oral tuberculosis. However, when involved the mandible is more commonly affected than the maxilla; especially the angle and alveolar regions of the mandible [10-13]. Tuberculosis is known to cause erosion of cortical plates [14]. When it affects the periodontal tissues, the findings are similar to that of the destructive disease [13,15]. This patient has tuberculous involving the alveolar region of the mandible with areas of bone loss and mobile teeth.

## Conclusion

Tuberculosis infection of the gingival is relatively rare; oral lesions would most commonly be secondary to pulmonary tuberculosis. Clinicians' awareness will help in early diagnosis and prevent complications considering tuberculosis in the differential diagnosis of gingival enlargement. Hence awareness of rare form of oral tuberculosis makes early diagnosis and prevents further spread of disease.

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