Case Report

# A case of hard palate perforation

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## Abstract

Tuberculosis (TB) is a major public health problem in developing countries. Lung is most common affected organ, however extra pulmonary tuberculosis (EPTB) is also not uncommon. The clinical manifestations of EPTB may be non-specific that mimics other diseases and is usually misdiagnosed. Therefore, high clinical suspicion of EPTB infection is important, especially in endemic areas. Here, we present a case of hard palate perforation that proved to be tuberculous in origin. The diagnosis was made by histo-pathological examination and positive TB Polymerase chain reaction (PCR).

**Keywords:** Hard palate, infection, tuberculosis

## Introduction

We present here a 30-year-old female patient presenting as a case of hard palate perforation. After thorough evaluation, a biopsy from that site was taken, which shows granulomatous inflammation and positive for tuberculosis polymerase chain reaction (TB-PCR). TB of the palate is a rare entity and that too without any sign of pulmonary TB is exceptional, which prompted us to do the case reporting. She was started on antituberculous regimen, and within the short span, her response was dramatic.

## Potential causes of palatal perforation

### Developmental

During the 6th week of prenatal period, palatal shelve coalesces to form the hard palate. Failure to this integration results in cleft palate.

### Infectious

Infectious causes of palatal perforation are leprosy, tertiary syphilis, TB, rhinoscleroderma, naso-oral blastomycosis, leishmaniasis, actinomycosis, histoplasmosis, coccidioidomycosis, and diphtheria.

### Autoimmune

There are some autoimmune diseases which result in palatal perforation. Examples are lupus erythematosus, sarcoidosis, Crohn's disease, and Wegener's granulomatosis.

### Neoplastic

Different tumors can extend from maxillary sinus or nasal cavity and perforate the palate.

### Drug related

Palatal perforation due to cocaine abuse is a well-known situation. Other drugs (heroine, narcotics) can also be responsible for this.

### Iatrogenic

Sometimes, following a tooth extraction, an oro-antral fistula remains.

### Rare causes

Rhinolith can result in palatal perforation.[1]

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## Case Report

A 30 year old female patient presented with complaints of nasal regurgitation of foods, slurring of speech and low grade fever for 2 months. There was no history of cough or expectoration. No epistaxis, no weight loss, focal deficit, weakness of any limb were reported.

On examination, the patient's vitals were normal; she was afebrile, and she had no pallor, icterus, cyanosis, clubbing, and lymphadenopathy. Oral examination suggested of perforation of size 3 cm × 2 cm in the hard palate [Figure 1]. Systemic examination was within normal limit (WNL). On biochemical examination, renal function test, liver function test and serum electolytes was WNL range. Complete blood count was also WNL. Urine routine/microscopy and hepatitis B surface antigens and hepatitis C virus antibodies were negative.

Chest X-ray was WNL, contrast-enhanced computed tomography of the chest was WNL. HIV was nonreactive. Venereal disease research laboratories were nonreactive.

Biopsy from the margin of perforation was suggestive of granulomatous inflammation with possibilities of TB and granulomatous polyangiitis. Antinuclear antibodies and antineutrophil cytoplasmic antibody were negative. PCR for mycobacterial TB was positive from the biopsy. The patient was started on anti-tuberculous regimen and she improved d.

## Discussion

Primary origin of oral TB is very rare; more often, it is secondary to pulmonary TB.[2] In secondary oral TB, the bacilli reach the oral mucosa by hematogenous or lymphatic spread from distant source. In primary oral TB, there is direct inoculation of the *Mycobacterium* due to break or loss of the natural barrier resulting from trauma, inflammatory conditions, leukoplakia, tooth extraction, or poor oral hygiene.[2,3] The prevalence of oral manifestations in pulmonary TB ranges from 0.8% to 3.5%.[4] TB is a chronic, granulomatous infectious disease caused by *Mycobacterium tuberculosis* through inhaling contaminated droplets and less so by *Mycobacterium bovis* or other atypical Mycobacteria.[5-11] Factors that attribute to relative resistance of oral cavity to TB are protective effect of saliva, presence of saprophytes, resistance of striated muscles to bacterial invasion, and thickness of protective epithelial covering.[4-7] Floor of mouth, soft palate, gingiva, lips, and hard palate can be involved; however, palate and tongue are most common. If there is the presence of constitutional symptoms of TB such as long duration of fever and weight loss, we have to look for any evidence of tubercular infection. Tissue diagnosis such as biopsy from local site is confirmatory of diagnosis. For primary care physician, especially in developing country like India, TB is one of the differential diagnoses to be kept in mind whenever we are dealing with some atypical manifestations of some diseases.

**Figure 1:** Photomicrograph showing hard palate perforation

## Conclusion

The aim of this case report is to highlight the fact that in oral cavity lesions, when making a differential diagnosis, the diagnosis of oral cavity TB also needs to be kept in mind as medical treatment in this condition is excellent and precious resources could be saved both in time and money.


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### Conflicts of interest

There are no conflicts of interest.


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