



# ORAL ULCERATION AS A MANIFESTATION OF SYSTEMIC TUBERCULOSIS

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## ABSTRACT

Tuberculosis (TB) is a chronic infectious disease primarily affecting the lungs but can also involve other organs, including the oral cavity. Oral TB lesions are rare and can mimic other conditions, posing diagnostic challenges.

This case report presents a 34-year-old male who visited the Otorhinolaryngology (ORL) department at CEMA Hospital, São Paulo, with a painful ulcerative lesion on the ventral surface of the tongue. Clinical examination, infectious and rheumatological tests, and a biopsy confirmed TB. Imaging revealed lung abnormalities. The patient received a 6-month treatment regimen.

After 15 days of treatment, the patient showed clinical improvement and was considered non-infectious. The lesion on the tongue resolved, and lung imaging improved. Oral TB lesions, though uncommon, can be successfully treated with early diagnosis and appropriate therapy.

Oral tuberculosis is a rare manifestation, often presenting diagnostic challenges. This case highlights the importance of early diagnosis and appropriate multi-drug treatment. Emerging molecular techniques may further improve diagnostic accuracy, aiding in timely intervention.

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## INTRODUCTION

Tuberculosis is a chronic infectious disease caused by *Mycobacterium tuberculosis*, primarily affecting the lungs. However, extrapulmonary involvement may occur, including oral manifestations, which are rare and often underdiagnosed.

Oral tuberculosis typically presents as chronic, non-healing ulcers, most commonly located on the tongue. These lesions can mimic malignancies or other infectious diseases, posing a diagnostic challenge.

We present the case of a 34-year-old male who developed a painful ulcer on the tongue, ultimately diagnosed as tuberculosis, emphasizing the importance of clinical suspicion and comprehensive investigation.

## CASE PRESENTATION

A 34-year-old previously healthy male presented to the Otorhinolaryngology Department at CEMA Hospital, São Paulo, with a 7-day history of painful lingual ulceration and difficulty eating.

Oral examination revealed a 3 cm ulcer on the ventral and right lateral border of the tongue, with an erythematous halo and indurated, irregular margins.

Initial laboratory work-up included serologic tests for HIV, syphilis, hepatitis, and cytomegalovirus. IgM and IgG for CMV were reactive, but symptoms persisted.

An incisional biopsy was performed 20 days after symptom onset. Histopathology showed granulomatous inflammation consistent with tuberculosis. Sputum PCR was positive for *Mycobacterium tuberculosis*, with sensitivity to rifampicin.

Chest CT revealed ground-glass opacities and nodular infiltrates in the apical segments of both lungs, confirming pulmonary involvement.



Figure 1. Clinical presentation of the ulcerative lesion on the tongue with erythematous halo and indurated borders, suggestive of oral tuberculosis.

## RESULTS

Oral tuberculosis is rare, with an estimated 400 cases described worldwide. A 10-year study in Switzerland found only 26 cases of lingual TB among 60,000 TB patients (0.04%).

These lesions predominantly affect males aged 30–50 and are more frequently found on the lateral borders of the tongue, especially the left side.

Clinical presentation is typically ulcerative, with crateriform lesions, bleeding edges, and a whitish base. Lesions range from 2–3 cm and may be painful or asymptomatic.

Pathogenesis remains uncertain, though theories include hematogenous dissemination or direct inoculation via trauma exposed to infected sputum. The protective effect of saliva may account for the rarity of oral involvement.

The patient was treated with the standard 6-month regimen:

- Intensive Phase (2 months): Rifampicin (150 mg), Isoniazid (75 mg), Pyrazinamide (400 mg), and Ethambutol (275 mg) — 3 fixed-dose combination tablets/day
- Maintenance Phase (4 months): Rifampicin (150 mg) and Isoniazid (75 mg) — 3 tablets/day

Clinical improvement was noted within 15 days. The patient was considered non-infectious and continued treatment under direct observation.

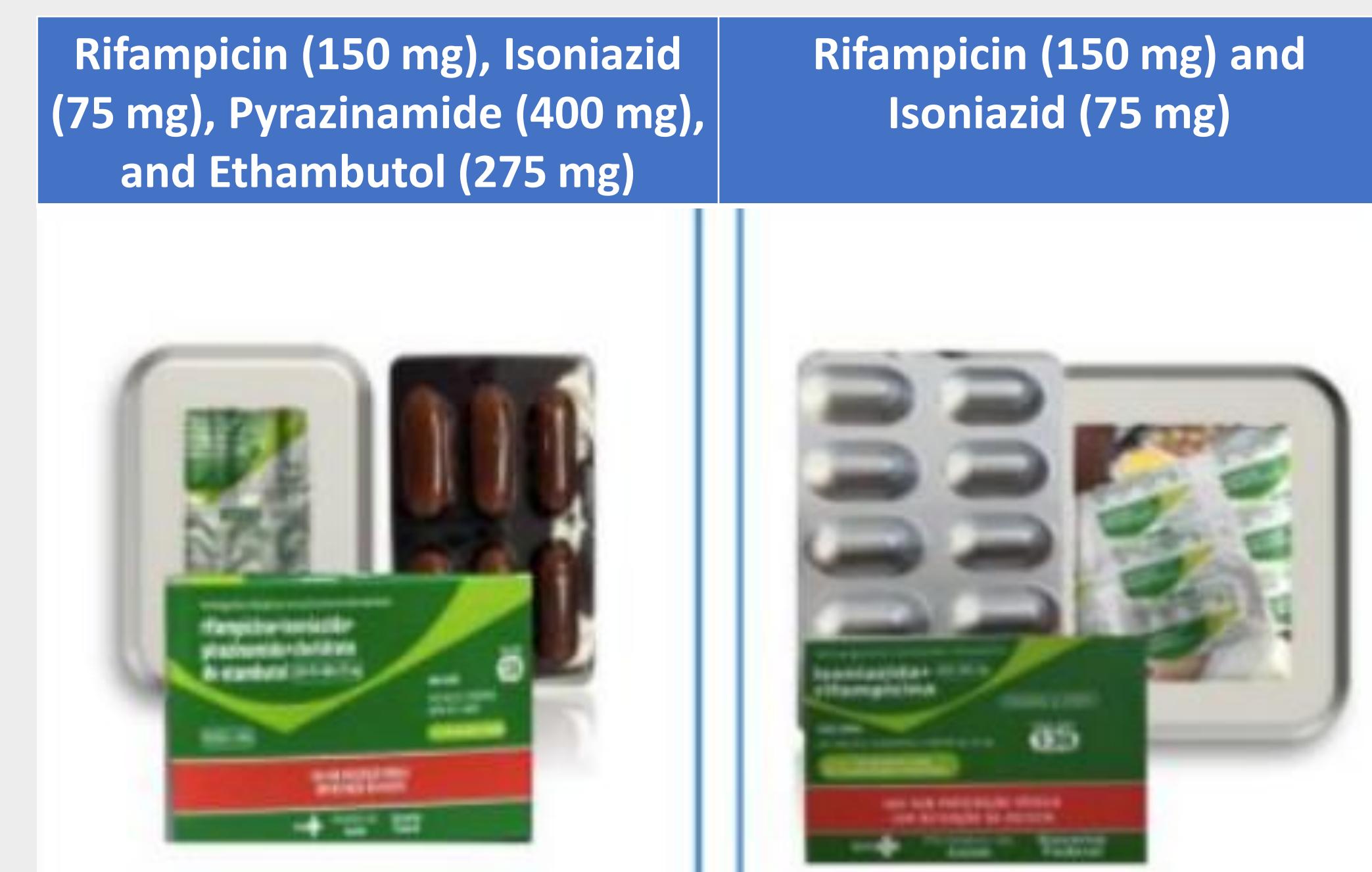


Figure 2. Treatment medication for six months



Figure 3. *Mycobacterium tuberculosis*

## DISCUSSION

Oral tuberculosis remains a diagnostic challenge due to its rarity and nonspecific presentation. Lesions can be mistaken for malignancy, aphthous ulcers, or syphilitic chancres, delaying proper management.

While BCG vaccination offers limited protection, early detection and appropriate multidrug chemotherapy lead to high cure rates.

Traditional diagnostic tools such as smear microscopy and PPD have limitations; molecular techniques like PCR are essential for rapid and accurate diagnosis.

This case underscores the importance of considering tuberculosis in the differential diagnosis of chronic oral ulcers, particularly in endemic regions or when systemic symptoms are present. Prompt biopsy and imaging are critical to ensure timely treatment and prevent disease spread.

## CONCLUSIONS

Oral tuberculosis, though rare, should not be overlooked. A high index of suspicion, combined with biopsy, imaging, and PCR testing, can lead to early diagnosis and successful treatment.

This case highlights the vital role of otorhinolaryngologists in identifying extrapulmonary TB and preventing misdiagnosis.

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