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Case Report

# Oral Thrush in a 40-Year-Old Female: A Case Report

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## Abstract

Oral thrush, or oropharyngeal candidiasis, is a fungal infection caused by *Candida albicans*. It commonly affects immunocompromised individuals but can also occur in immunocompetent individuals under specific conditions. This case report discusses a 40-year-old female diagnosed with oral thrush, highlighting clinical presentation, diagnostic approach, and management.

**Keywords:** Oral Thrush; *Candida albicans*

## Introduction

Oral thrush, or oropharyngeal candidiasis, is a fungal infection caused by *Candida albicans*, commonly seen in immunocompromised individuals but also occurring in immunocompetent persons under specific conditions. This case report discusses a 40-year-old female diagnosed with oral thrush, emphasizing clinical presentation, diagnostic approach, and management strategies.

## Background

*Candida albicans* is a commensal organism in the oral cavity that can become pathogenic under favorable conditions such as antibiotic use, diabetes mellitus, immunosuppression, and poor oral hygiene [1]. Patients with diabetes mellitus are particularly prone to fungal infections due to hyperglycemia-induced immune dysfunction and increased fungal adhesion to oral mucosa [2]. The use of broad-spectrum antibiotics further predisposes individuals to candidiasis by disrupting normal oral flora [3].

## Case Presentation

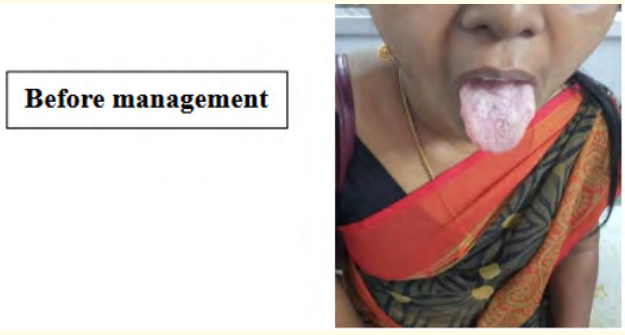


**Figure 1**

### Patient information

- **Age/Sex:** 40-year-old female
- **Chief Complaint:** White patches in the oral cavity for 10 days, mild burning sensation while eating spicy food
- **History of Present Illness:** The patient reported white, curd-like plaques on her tongue and inner cheeks for 10 days, accompanied by mild discomfort while swallowing. No history of fever, weight loss, or systemic symptoms.

### Medical and social history

- **Comorbidities:** Type 2 diabetes mellitus, diagnosed 3 years ago, on oral hypoglycemic agents
- **Medications:** Metformin 500 mg BD
- **Recent History:** Completed a 7-day course of antibiotics (Amoxicillin-Clavulanate) for a respiratory infection two weeks prior
- **Smoking/Alcohol:** Non-smoker, occasional alcohol consumption
- **Oral Hygiene:** Good, brushes twice daily

### Clinical examination

### Patient consent

The patient has been informed about the purpose of this case report and the potential publication of their medial history and clinical images. Written consent was obtained from the patient to use her clinical details and images in this publication.

This study complies with ethical guidelines and follows the principle outlined in the Declaration of Helsinki.

- **General Examination:** No pallor, icterus, or lymphadenopathy
- Oral Examination
- White, non-removable, curd-like plaques over the dorsal tongue, inner cheeks, and palate
- Mild erythema underneath the plaques
- No ulceration or bleeding
- **Systemic Examination:** No abnormal findings.

### Differential diagnoses

- Oral leukoplakia [4]
- Lichen planus [5]
- Secondary syphilis [6]
- Oral thrush (*Candida albicans*) [7]

### Diagnostic work

- **KOH Mount:** Positive for budding yeast cells and pseudohyphae (helps to differentiate Candida from other fungi) [8]
- **Gram Stain:** Gram-positive budding yeasts [9]
- **Culture (Sabouraud's Dextrose Agar):** Growth of *Candida albicans* [10]
- **HbA1c:** 8.2% (Uncontrolled diabetes)
- **HIV Testing**: Negative

### Diagnosis

Based on clinical features and microbiological confirmation, a diagnosis of oral thrush due to *Candida albicans* in an uncontrolled diabetic patient was made.

## Discussion

Oral thrush is an opportunistic fungal infection commonly associated with diabetes mellitus, antibiotic use, immunosuppression, and poor oral hygiene [2,3]. *Candida albicans* normally colonizes the oral cavity in small amounts, but an overgrowth occurs when host immunity is compromised [1,4]. Diabetic patients are at higher risk due to hyperglycemia-induced immune dysfunction, which enhances fungal adhesion to the oral mucosa [5,6].

In this case, a recent antibiotic course and poorly controlled diabetes were the likely predisposing factors. The disruption of normal oral flora by antibiotics facilitates fungal overgrowth, while hyperglycemia impairs neutrophil function and reduces salivary antimicrobial properties, further contributing to susceptibility [7,9].

The standard treatment for oral thrush includes topical antifungals such as clotrimazole or systemic antifungals like fluconazole for severe cases [8,10]. Patients with diabetes mellitus are at increased risk of recurrence of oral candidiasis due to impaired immune response, xerostomia, and elevated salivary glucose levels that promote fungal growth.

Emphasis should be placed on strict glycemic control, maintaining good oral hygiene, regular dental checkups, and the use of antifungal prophylaxis in recurrent cases.

## Management

- **Topical Antifungal**: Clotrimazole 10 mg troches, five times daily for 7 days [8]
- **Systemic Antifungal (for severe cases):** Fluconazole 150 mg once daily for 7 days [10]
- **Oral Hygiene Advice:** Regular brushing, chlorhexidine mouthwash [6]
- **Diabetes Management:** Advised better glycemic control through lifestyle modifications and medication adherence [2].

## Follow-up

After one week, the patient showed significant improvement, with resolution of white plaques and symptomatic relief. Long-term management includes continued monitoring of glycemic levels and maintaining proper oral hygiene to prevent recurrence [3,5].

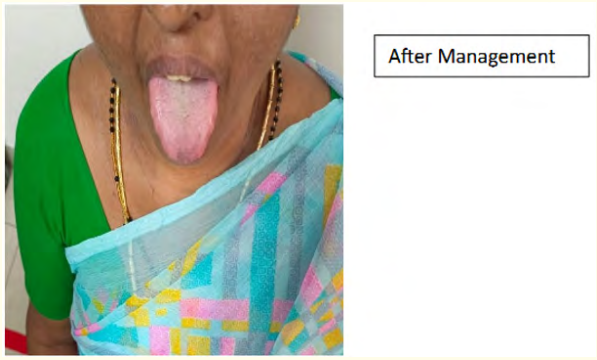


**Figure 2**

## Conclusion

This case highlights the importance of considering oral thrush in patients presenting with persistent white plaques in the oral cavity, especially those with underlying risk factors such as diabetes mellitus and recent antibiotic use. Early diagnosis and appropriate antifungal therapy, along with risk factor management, lead to effective resolution and prevent recurrence [7,9,10].

## Potential limitations

- Lack of oral microbiome analysis limits understanding of microbial imbalance contributing to thrush.
- Absence of antifungal sensitivity testing may overlook resistant Candida strains.

## Future directions

- Investigate the role of oral microbiota in recurrent thrush, especially in diabetics.
- Explore probiotic therapy and personalized antifungal approaches to reduce recurrence.

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