

## *Candida lipolytica* causing post-traumatic gluteal abscess in a healthy young patient: case report and review of literature

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### ABSTRACT

*Candida lipolytica* is a yeast pathogen with ubiquitous presence in soil. It is industrially important as a source of lipase enzyme. We here describe a case of subacute gluteal abscess developing in a young, healthy, immunocompetent patient following fall from tree, caused by *Candida lipolytica*. The isolate was identified by dry, cerebriform colonies on Blood agar and Saboraud's dextrose agar, urease and lipase positivity on Egg yolk agar, yeast cells at tip of pseudohyphae and true hyphae but no along its length by Dalmau technique and in vitro susceptibility to Fluconazole by Disc diffusion method on Mueller-Hinton agar supplemented with 2% glucose and 0.5 µg/ml Methylene blue. The case highlights the clinical and epidemiological importance of proper identification of rare yeast isolates from purulent lesions.

**Keywords:** *Candida lipolytica*, post-traumatic, abscess.

### Abbreviations:

OPD: Outpatient department.

SDA: Saboraud's dextrose agar.

LCB: Lactophenol cotton blue.

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## 1. INTRODUCTION

*Candida lipolytica* is a soil yeast, dimorphic and obligate aerobic, nowadays called *Yarrowia lipolytica* (Barth and Gaillardin, 1997). It is also called *Endomycopsis*, or *Saccharomyces lipolytica*, and is one of the more intensively studied 'non-conventional' yeast species (Barth and Gaillardin, 1997). This species is also important as a source of lipase enzyme (Pererra-Meirelles et al, 1997). Infections have only been reported rarely, including candidemia (in bone marrow transplant) and other infections (D'Antonio et al, 2002).

## 2. CASE REPORT

A 18 year old young male presented in Orthopedics OPD of the institute with complaints of slowly developing painful swelling in right buttock, since last 2 months, following fall from a tree. Palpation revealed a tender, boggy swelling over right gluteal region. A thick needle was inserted and about 20 ml purulent fluid drained. Sample was sent for Microbiological evaluation showed many leucocytes and few budding yeasts on Gram stain. Culture of sample on 5% Sheep blood agar and SDA (Saboraud's dextrose agar) showed very dry, flat wrinkled colonies. Lactophenol Cotton Blue (LCB) mount and Gram stain of the colonies showed budding yeast cells (size 5-7  $\mu\text{m}$ ).

Colonies were also inoculated on Rice water agar with 1% Tween-80 (Dalmau technique, slit inoculation). Germ tube test was also done. Sugar fermentation tests with 2% each of maltose, glucose; sucrose and lactose (with Andrade's indicator) were also done. The isolate was also subcultured on Christensen's Urea agar, and egg yolk agar for checking lipase activity. Germ tube test was negative after 4 hours, and glucose and maltose were fermented. Dalmau technique yielded yeast cells singly at tip of pseudohyphae, and true hyphae. Urease test was positive after 18 hours of incubation at 37°C. On subculturing colonies on Egg yolk SDA (SDA 90 ml + Egg yolk 10 ml), colonies turned smooth from dry, and had a sheen on surface. Thus it was lipase positive.

Based on these findings, it was identified as *C. (Yarrowia) lipolytica*. The isolate was susceptible to Fluconazole (25  $\mu\text{g}$ ) and Voriconazole (1  $\mu\text{g}$ ) by disc diffusion test on Mueller Hinton agar containing 2% glucose (w/v) and methylene blue (0.5  $\mu\text{g/ml}$ ) (CLSI, 2009). The patient responded quite well to oral fluconazole (150 mg once a week) and swelling and pain subsided after 2 weeks.

## 3. CONCLUSION

*Candida lipolytica* is saprophytic soil yeast and only rarely causes infection (Mi-Yeon et al, 1998). It has been incriminated in infections like candidemia, localized infections like acute exacerbation of sinusitis and other infections (Mi-Yeon et al, 1998). Identification is accomplished by white cerebriform colonies on Saboraud's dextrose agar and true hyphae on corn meal agar, along with Urease and lipase positivity (Walsh TJ et al, 1989). Infection in our case was possibly acquired by fall from tree on soil and percutaneous inoculation of the yeast pathogen. Proper identification is essential since these isolates: often misidentified as *C. tropicalis* or other *Candida* spp., unless biochemical and other tests are done extensively. As far as we know, this is the first Indian case of post-traumatic gluteal abscess by *Candida lipolytica*. This case highlights the importance of saprophytic yeasts in causing various human infections and the need to identify these pathogens meticulously.

## DISCLOSURE STATEMENT

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