

# INVASIVE CANDIDIASIS AND CANDIDEMIA IN NEONATES: ABOUT A CASE



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## Introduction

Invasive candidiasis and candidemia (IC/C) is **the most frequent neonatal invasive fungal infection** but data in this population remain limited. This affection has a **high morbidity and mortality** rate. Here are the characteristics and recent guidelines available about neonatal IC/C.

## Case presentation

A **6-day-old** infant, born spontaneously at **26 weeks of gestational age**, suddenly presented with fever, increased apnea and bradycardia, hyperglycemia and **clinical instability**. **Candida albicans** was found in the **blood culture** and in the **urine** by PCR. The risk factors identified were prematurity, previous antibiotic exposure for a suspected early onset sepsis, ventilatory support, central venous catheter (CVC) and parenteral nutrition. **CVC replacement and antifungal therapy** with fluconazole for **14 days** allowed for recovery.

## Work-up

- **Blood test**
- Two **blood cultures** separated by greater than 24h
- **Urine** culture or PCR
- **CSF** culture
- Dilated retinal exam
- Echocardiogram
- Abdominal imaging
- Central nervous system imaging

## Clinical signs and risk factors

### Clinical signs:

- Lethargy
- Persistent fever
- Bleeding manifestations
- Feed intolerance
- Pneumonia
- Apnea

There are **not specific** and **fake a bacterial sepsis**.

### Risk factors:

- Prematurity
- Premature rupture of membranes with vaginal candidiasis
- Neutropenia
- Antibiotic or systemic steroids exposure
- Central venous catheter
- Parenteral nutrition
- Ventilatory support
- Previous surgical procedures
- Prolonged hospital stay

These **enhance suspicion** of IC/C.

## Treatment

- **CVC** removed or replaced to avoid dissemination.
- First-line **therapy** for candidiasis should be initiated :
  - Amphotericin B deoxycholate (**D-AmB**) 1 mg/kg/day
  - Liposomal amphotericin B (**L-AmB**) 5 mg/kg/day (if urine analysis is negative)
  - **Fluconazole** 12 mg/kg/day (25 mg/kg loading dose), for those not previously exposed to azole prophylaxis
  - **Micafungin** 4-10 mg/kg/day (if eye involvement is excluded and at higher dose for meningoencephalitis)
- For uncomplicated candidemia or candiduria, length of therapy should be **at least 14 days**. If cultures continue to be positive by **day 7**, the addition of a **second agent** should be considered. It is then also important to consider the **clinical evaluation** of deep tissue infection and **resolution of candidemia symptoms**.

## Conclusion

Studies underline the importance of **early and structured approach** in the management of IC/C in addition to **careful monitoring** to mitigate the morbidity and mortality of this condition in the neonatal population.