



This review clarifies Candida CRBSI rates by species, risk factors, outcomes, and management to improve effectiveness of HPN programs” Phua et al (2019).

Abstract:

BACKGROUND: Catheter-related bloodstream infections (CRBSIs) are life-threatening complications for home parenteral nutrition (HPN) patients. This review clarifies Candida CRBSI rates by species, risk factors, outcomes, and management to improve effectiveness of HPN programs.

METHODS: A review of Candida CRBSIs in HPN patients was conducted around the following questions: 1. How often do adult and paediatric HPN patients contract Candida CRBSIs? 2. What is the proportion of different Candida species? 3. What are the risk factors? 4. How are outcomes in Candida versus other CRBSIs? 5. What are current guidelines to manage Candida CRBSIs? Specifically, should catheters be removed? What antimicrobial therapy is indicated? Are catheter lock techniques effective?

RESULTS: 20 studies were included – six paediatric and 14 adult. Candida represented 9.8% of paediatric CRBSIs and 11.7% of adult CRBSIs. Paediatric candidal CRBSIs featured these species: *C. albicans* (46.2%), *C. parapsilosis* (34.6%), *Candida guilliermondii* (11.5%), *Candida tropicalis* (3.8%), and mixed or other types of *Candida* (3.8%). Adult candidal CRBSIs featured these species: *C. albicans* (37.3%), *C. glabrata* (33.3%), *C. parapsilosis* (22.4%), mixed or

other types of Candida (5.7%), and *C. tropicalis* (1.3%). Risk factors for paediatric HPN CRBSIs include underlying haematological disease and previous fungaemia. Candida infection is associated with mortality rates around 30%. In Candida CRBSIs, major guidelines advocate catheter removal prior to systemic antifungal treatment (fluconazole, amphotericin B, echinocandins), ideally until 14 days after the first negative blood culture; some studies suggest the possibility of systemic therapy while catheters remain in-situ to preserve crucial line access. Various catheter lock solutions are effective as treatment and prophylaxis, but are not yet firmly established.

CONCLUSIONS: Candida CRBSI is a significant danger to HPN patients causing high mortality; gold standard treatment is catheter removal and antifungal treatment, although treatments with catheters in-situ and catheter locks as prophylaxis appear to be gaining traction.

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Reference:

Phua, A.I., Hon, K.Y., Holt, A., O'Callaghan, M. and Bihari, S. (2019) Candida catheter-related bloodstream infection in patients on home parenteral nutrition – Rates, risk factors, outcomes, and management. *Clinical Nutrition ESPEN*. 31, p.1-9. doi: 10.1016/j.clnesp.2019.03.007.

