

ID CORNER

Role of ID Consultation in Candidemia

Nathanial S. Nolan¹¹ Department of Infectious Diseases, Washington University School of Medicine, St. Louis, MO

Correspondence: Nathanial S. Nolan, MD, MPH (nolann@wustl.edu)

Received: December 14, 2019

Accepted: December 27, 2019

Published: December 31, 2019

Am J Hosp Med 2019 Oct; 3(4):2019.018 DOI: <https://doi.org/10.24150/ajhm/2019.018>

Candida bloodstream infections affect many patients across the U.S. Their mortality rate is approximately 25% to 35% according to surveillance data^{1,2}. Candidemia is associated with immune suppression, hematologic malignancy, the presence of a central line, the use of parenteral nutrition, and exposure to broad spectrum antibiotics. The timing and appropriateness of antifungal therapy can improve outcomes. Further, patients should undergo investigations to identify the source of their infection and possible metastatic complications, such as endocarditis, endophthalmitis and invasive organ disease. The Infectious Disease Society of America has created evidence-based guidelines for the management of invasive candidiasis³.

A recent publication in *Lancet Infectious Diseases* highlighted the importance of an Infectious Disease (ID) physician consult when treating patients with *Candida* bloodstream infection⁴. In their publication, Mejia-Chew and colleagues retrospectively analyzed data on 1691 patients in a single academic center in the United States who had *Candida* bloodstream infection based on blood culture results. Less than half received an ID consultation, however, in those who had ID consultation, outcomes were significantly better (90-day mortality: 29% in consultation group vs 51% in the non-consultation group). Patients with

ID consultation had longer duration of treatment and were more likely to have central lines removed, receive appropriate cardiac imaging studies and undergo ophthalmologic evaluation. The adjusted hazard ratio in the consultation group equated to a 19% survival benefit.

This study falls in line with similar studies demonstrating the value of infectious disease consultation. A 2015 multi-center study in Canada by Bai *et al.* suggested that outcomes were improved in *Staphylococcus aureus* bacteremia when ID consultation occurred⁵. What is it that infectious disease doctors do differently? The involvement of infectious disease physicians improves adherence to evidence-based treatments and interventions. Essentially, when ID consultations occur, patients are more likely to receive care that is associated with a mortality benefit, such as source control, targeted therapies and appropriate duration of treatment.

Based on prior observational studies evaluating the value of ID consultation on *Staphylococcus aureus* bacteremia, some institutions are now automating ID consults for this condition.⁶ The study by Mejia-chew and colleagues done at a single center, adds to current evidence that candidemia patients have improved outcomes when infectious disease physicians are on their team. This

study also opens the door to this question: should all patients with candidemia receive an ID consultation? Future multi-center randomized trials are needed to answer this question.

Notes

Financial support: Author declares that no financial assistance was taken from any source.

Potential conflicts of interest: Author declares no conflicts of interest.

References

1. Toda M, Williams SR, Berkow EL, et al. Population-Based Active Surveillance for Culture-Confirmed Candidemia — Four Sites, United States, 2012–2016. *MMWR Surveill Summ* 2019;68(No. SS-8):1–15. DOI: <http://dx.doi.org/10.15585/mmwr.ss6808a1external icon>.
2. Horn DL, Neofytos D, Anaissie EJ, et al. Epidemiology and outcomes of candidemia in 2019 patients: data from the prospective antifungal therapy alliance registry. *Clin Infect Dis*. 2009;48(12):1695-703.
3. Pappas PG, Kauffman CA, Andes DR, et al. Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2016;62(4):e1-50.
4. Mejia-chew C, O'halloran JA, Olsen MA, et al. Effect of infectious disease consultation on mortality and treatment of patients with candida bloodstream infections: a retrospective, cohort study. *Lancet Infect Dis*. 2019; doi: 10.1016/S1473-3099(19)30405-0. [Epub ahead of print].
5. Bai AD, Showler A, Burry L, et al. Impact of Infectious Disease Consultation on Quality of Care, Mortality, and Length of Stay in *Staphylococcus aureus* Bacteremia: Results From a Large Multicenter Cohort Study. *Clin Infect Dis*. 2015;60(10):1451-61.
6. Djelic L, Andany N, Craig J, et al. Automatic notification and infectious diseases consultation for patients with *Staphylococcus aureus* bacteremia. *Diagn Microbiol Infect Dis*. 2018. Jul; 91(3):282-283.