

Title: Impact of Infectious Diseases Consultation in Patients with Candidemia at a Large Multicenter Healthcare System Providing Telemedicine Services

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Background: Bloodstream infection with *Candida* species is associated with high morbidity and mortality. A reduction in mortality and increased likelihood of appropriate management has been demonstrated in patients with candidemia who receive infectious disease consultation (IDC). IDC can be expanded to resource-limited institutions by utilizing telemedicine services.

Objective: To compare in-hospital mortality and clinical outcomes of patients with candidemia who received IDC, delivered via onsite or telemedicine (TM), to those with candidemia who do not receive IDC (non-IDC).

Methods: This was a multicenter, retrospective cohort study of hospitalized patients with candidemia between January 2018 and October 2021. Inclusion criteria were age >18 years with blood cultures positive for a *Candida* spp. Secondary objectives including initiation of appropriate antifungal therapy, total duration of antifungal therapy, removal of central lines, obtainment of ophthalmology exam and echocardiography, and identification of infectious sources were reviewed in the primary comparator group and in the pre-determined subgroup of TM IDC and non-IDC.

Results: A total of 265 patients were evaluated (n = 236 IDC, n = 29 non-IDC). In-hospital mortality was not significantly different between groups in the primary analysis but was significantly different in the subgroup analysis (IDC 20.8% vs non-IDC 34.5%, P = 0.094; TM IDC 10.2% vs non-IDC 34.5%, P = 0.009). Patients that received IDC were more likely to initiate antifungal therapy (P <0.001, primary and subgroup), receive an appropriate therapy duration (P<0.001, primary and subgroup), have central lines removed (P = 0.001, primary), undergo ophthalmology examination (P = 0.021, primary) and echocardiography (P <0.01, primary; P <0.001, subgroup), and were less likely to have unknown sources of candidemia (P <0.001, primary and subgroup).

Conclusion: While a significant difference was not observed for the primary objective, to our knowledge this is the first study to demonstrate the impact of TM vs non-IDC for treatment of candidemia. Our findings suggest that for institutions where onsite IDC is not available, TM IDC should be strongly considered for all patients with candidemia.