**Impact of Obesity on Clinical Outcomes in Patients with Candidemia**

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**Background:**Candidemia, or the presence of *Candida* species in the blood, can lead to increased mortality, longer length of stays, and increased costs​. Rates for obesity are on the rise, with an estimated 40% of people in the United States classified as obese​. This patient population has key pharmacodynamic and pharmacokinetic differences that alter drug distribution and metabolism. Higher doses may be needed in order to achieve target concentrations for efficacy, however it is unclear what the optimal dosing is in this unique patient population.

**Objective:** The primary outcome of this study was to compare infection-related length of stay in obese and non-obese patients presenting with candidemia. Secondary outcomes included difference in time to candidemia resolution, 90-day hospital readmission, and in-hospital mortality.

**Methods:** This was a single-center, retrospective cohort, chart-review analysis of patients presenting with *Candida* bloodstream infection. Patients included had to be greater than or equal to 18 years of age, have a positive blood culture for *C. albicans, C. glabrata, C. tropicalis, C. krusei, C. dubliniensis*, or *C. parapsilosis* between June 1, 2014, and July 30, 2021, and receive treatment for ≥48 hours with systemic antifungals. Comparisons of age, gender, race, weight, height, Charlson Comorbidity Index, serum creatinine, and need for mechanical ventilation between obese and non-obese patients were reported. Additional data collected included infection-related length of stay (time from the first positive Candida blood culture until the day of hospital discharge), total hospital length of stay, in-hospital mortality, 30-day and 90-day readmission status. Categorical data between obese and non-obese patients was analyzed with Chi-square tests and Fisher’s Exact tests. Continuous data between subsets was analyzed using the Mann-Whitney U test or Student t test where appropriate. A two-sided *P* value of 0.05 was considered statistically significant.

**Results:** The median length of stay in the obese group was 10.1 days (5.9-15.5) compared with 9.5 days (7.5-17.6) in the non-obese group, *P= 0.32*. The duration of candidemia was similar between the groups, with a median duration of 2.4 days (1.7-4.4) in the obese group and 2.9 (1.7-4.6) days in the non-obese group. There were a greater number of obese patients who died within the hospital admission compared to patients in the non-obese group, 15 (31%) vs. 13 (18%), respectively. Additionally, for the secondary endpoint of 90-day all-cause mortality, 20 (41%) of obese patients died within 90 days of admission as opposed to 23 (31%) of non-obese patients.

**Conclusion:** Obese patients did not have a longer infection-related length of stay or duration of candidemia. Obese patients had a numerically higher rate of in-hospital mortality and 90-day all-cause mortality; however, these results were non-significant. Larger cohort studies are need to confirm the differences in mortality seen in this study.