# Supplemental Methods

**Microbiologic methods**

*Candida* species were identified in blood cultures using the Bactec automated blood culture system (Becton Dickinson, Franklin Lakes, NJ) with no reporting of blood culture volume. Recommended blood culture volume is 10ml per bottle. FilmArray blood culture identification multiplex panels (BioFire Diagnostics, St. Lake City, UT) were performed within one hour of positive gram stain. Matrix assisted laser desorption ionization time of flight mass spectrometry (Bruker, Billerica, MA) identified *Candida* species. Sensititre YeastOne YO9 susceptibility kits (Trek Diagnostic Systems, Cleveland, Ohio) utilized cut-offs per Clinical and Laboratory Standards Institute breakpoints. No changes in microbiologic methods occurred during the study period.

**EQUAL Score Methods**

Definitions and interpretation for EQUAL score components (Supplemental Table 1) were calculated as previously described.1-3 The EQUAL score component *initial blood cultures* required two pairs of blood cultures to be collected with adequate volume (40ml); because we do not record volume of blood collected, all patients were assigned a score of zero. Points for the step-down variable were awarded for this transition in susceptible isolates or when the patient was already on definitive therapy for non-fluconazole susceptible isolates. For episodes without repeat or cleared blood cultures, then no points were assigned for 14-day treatment completion. However, if the patient died before completing 14 days of therapy, points were assigned. The EQUAL score suggested daily follow-up blood cultures until negative; however, IDSA guidelines state daily or every other day follow-up blood cultures are adequate.4 We assigned points for any follow-up blood cultures based on practical application.2

# Supplemental Table 1: EQUAL Candida Score\*

|  |  |  |
| --- | --- | --- |
| **EQUAL Score Components** | **CVC Present Score** | **No CVC Score** |
| Initial BCx with two bottles with 40mL of blood | 3 | 3 |
| Species identification | 3 | 3 |
| Susceptibility testing | 2 | 2 |
| Echocardiography | 1 | 1 |
| Ophthalmoscopy | 1 | 1 |
| Empiric echinocandin treatment | 3 | 3 |
| Fluconazole step-down if susceptible | 2 | 2 |
| Treatment for 14 days after first negative BCx | 2 | 2 |
| CVC Removal within 24 hours | 3 | N/A |
| CVC Removal between 24-72 hours | 2 | N/A |
| Daily follow-up BCx until negative | 2 | 2 |
| Max Score | 22 | 19 |

Abbreviations. EQUAL: European Confederation of Clinical Mycology QUALity of Clinical Candidemia Management, CVC: central venous catheter, BCx: blood cultures, N/A: not applicable

\*Table adapted from Mellinghoff et al1

# Supplemental Table 2: Outcomes for IDC <48 hours

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcomes** | **IDC within 48 hours**  **(n=77)** | **No IDC within 48 hours**  **(n=15)** | **p-value** |
| 30-day all-cause mortality, No./Total (%)\* | 15/70 (21.4) | 3/15 (20) | 1.00 |
| Length of Admission, days, median (IQR) | 16 (9-50) | 35 (15-50) | 0.27 |
| 60-Day Recurrence, No./Total (%) | 1/77 (1.3) | 0/15 (0) | 1.00 |
| CVC Removal, No./Total (%) | 49/54 (90.7) | 11/12 (91.7) | 1.00 |
| CVC Removal <24 hours | 26/49 (53.1) | 6/11 (54.6) | 0.55 |
| CVC Removal 24-72 hours | 11/49 (22.5) | 1/11 (9.1) |
| CVC Removal >72 hours | 12/49 (24.5) | 4/11 (36.4) |
| Repeat BCx, No./Total (%) | 76/77 (98.7) | 14/15 (93.3) | 0.3 |
| Ophthalmology examination, No./Total (%) | 52/77 (67.5) | 6/15 (40%) | 0.076 |
| Echocardiography, No./Total (%) | 56/77 (72.7) | 7/15 (46.7) | 0.07 |
| Time to BCx clearance, hours, median (IQR) | 81.3 (57.3-138.6) (n=75) | 113.9 (95.7-133.6) (n=13) | 0.09 |
| Total duration of treatment, days, median (IQR) | 16 (14-25) (n=66) | 17 (15-20) (n=6) | 0.59 |
| Duration of treatment ≥14 days after BCx clearance, No./Total (%) | 54/59 (91.5) | 10/13 (76.9) | 0.15 |
| Initial antifungal echinocandin, No./Total (%) | 51/77 (66.2) | 10/15 (66.7) | 1.00 |
| Initial antifungal fluconazole, No./Total (%) | 26/77 (33.8) | 5/15 (33.3) |
| Initial antifungal susceptible, No./Total (%)† | 72/76 (94.7) | 12/15 (80) | 0.09 |
| Fluconazole stepdown performed, No./Total (%)‡ | 31/51 (60.8) | 6/10 (60) | 1.00 |
| CVC Present EQUAL Candida Score, points, median (IQR) | 16 (14-17) (n=54) | 13.5 (11-16.5) (n=12) | 0.10 |
| No CVC EQUAL Candida Score, points, median (IQR) | 12 (10-15) (n=23) | 12 (11-14) (n=3) | 0.9 |
| ASP Recommended IDC, No./Total (%) | 7/77 (9.1) | 1/15 (6.7) | 1.00 |
| ASP Recommended Therapy Change, No./Total (%) | 13/77 (16.9) | 4/15 (26.7) | 0.47 |

Abbreviations. IDC: infectious diseases consultation, No.: number, IQR: interquartile range, CVC: central venous catheter, BCx: blood culture, EQUAL: European Confederation of Clinical Mycology QUALity of Clinical Candidemia Management, ASP: antimicrobial stewardship program

\*n=85 due to 3 excluded patients who survived hospitalization but could not confirm 30-day survival

†One patient received empiric voriconazole, for which minimum inhibitory concentrations are provided, but susceptibility interpretation is not provided in our lab

‡Only calculated if patient received empiric micafungin

# Supplemental References

**1.** Mellinghoff SC, Hoenigl M, Koehler P, et al. EQUAL Candida Score: An ECMM score derived from current guidelines to measure QUAlity of Clinical Candidaemia Management. *Mycoses* 2018;61:326-330.

**2.** Bal AM. European confederation of medical mycology quality of clinical candidaemia management score: A review of the points based best practice recommendations. *Mycoses* 2021;64:123-131.

**3.** Nemer S, Imtiaz T, Varikkara M, Collier A, Bal AM. Management of candidaemia with reference to the European confederation of medical mycology quality indicators. *Infect Dis (Lond)* 2019;51:527-533.

**4.** 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. *Clinical Infectious Diseases* 2016;62:e1-e50.