Conclusion. Candida CLABSIs was infrequent but had significant mortality in our cohort. Our results suggest that adherence to SOC per IDSA guidelines and involve- ment of ID may improve survival of patients with Candida CLASLBI. Future studies are needed to validate these findings.

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192. Treatment Bundle Improves Outcomes in the Management of Candidemia at Large Urban Academic Medical Centers

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Background. A candidaemia treatment bundle (CTB) may increase adherence to guideline recommended candidemia management and improve patient outcomes. The purpose of this study was to evaluate the impact of a best practice alert (BPA) and order-set on optimizing compliance with all CTB components and patient outcomes.

Methods. A single-center, pre-/post-intervention study was completed at Grady Health System from August 2015 to August 2017. Post-CTB intervention began August 2016. The CTB included a BPA that fires for blood cultures positive for any Candida species to treatment clinicians upon opening the patient's electronic health record. The BPA included a linked order-set based on treatment recommendations including: infectious diseases (ID) and ophthalmology consultation, repeat blood cultures, empiric echino- candin therapy, early source control, antifungal de-escalation, intravenous to oral (IV to PO) switch, and duration of therapy. The primary outcome of the study was total adherence to the CTB. The secondary outcomes include adherence with the individual components of the CTB, 30-day mortality, and infection-related length of stay (iLOS).

Results. Forty-five patients in the pre-group and 24 patients in the CTB group with candidaemia were identified. Twenty-seven patients in the pre-group and 19 patients in the CTB group met inclusion criteria. Total adherence with the CTB occurred in 80% (19/24) of patients in the pre-group and three-quarters in the CTB group (P = 0.05). ID was consulted in 15 patients in the pre-group and 17 patients in the CTB group (56% vs. 89%, P = 0.02). Source control occurred in three and 11 patients, respectively (11% vs. 58% P < 0.01). The bundle comprised of empiric echinocandin (81% vs. 100%, P = 0.07) and ophthalmology consultation (81% vs. 95%, P = 0.37) also improved in the CTB group. Repeat cultures and antifungal de-escalation were similar among groups. Thirty-day mortality decreased in the CTB group by 10% (26% vs. 16%, P = 0.48). Median iLOS decreased from 3 days in the pre-group to 1 day in the CTB group (P = 0.05).

Conclusion. The CTB, with a BPA and linked order-set, improved guideline recom- mendation of candidemia specifically increasing the rates of ID consultation and early source control. There were quantitative improvements in mortality and iLOS.

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193. Validation of an Empiric Candidemia Treatment Algorithm

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Background. Judicious use of echinocandins may limit the development of resist- ance in Candida species. Guidelines endorse the use of echinocandins as initial therapy in candidemia, with fluconazole as an alternate choice in select patients. We compared the ability of providers to predict the need for echinocandin therapy in Candida bloodstream infections to that of a proposed institutional treatment algorithm designed to optimize empiric antifungal use.

Methods. In this retrospective study (10/2015–10/2016), patients were included with Candida species isolated in ≥1 blood culture, without candidemia. The empiric treatment (the first antifungal prescribed for ≥24 hours after index blood culture) was considered “overly broad” if an echinocandin was administered to a fluconazole-susceptible isolate and “inappropriate” if fluconazole was administered to a fluconazole-non-susceptible isolate. An institutional algorithm was created recom- mending empiric echinocandin use based on the presence of ≥1 risk factors (Table 1). Provider choice and the recommended agent according to the algorithm were com- pared with the final fluconazole susceptibility of the organism.

Results. Among 65 episodes of candidemia, the majority of isolates were C. gla- brata (Figure 1). Ninety-one percent of patients received non-azole therapy, primar- ily micafungin. Fluconazole was recommended by the algorithm in 25% of cases but initially prescribed in only 9% (Figure 2). Providers prescribed both overly broad and inappropriate treatment at 14%, with considerable variability in recommendations (Figure 3).

Conclusion. An algorithm using risk factors for fluconazole-non-susceptible Candida was able to predict appropriate empiric antifungal therapy better than provider decision making in cases of candidemia. Implementation of this algorithm into local treatment guidelines may improve empiric antifungal prescribing.
**Table 1. Characteristics of candidemia episodes**

| Patient characteristics          | Frequency (%) |
|----------------------------------|---------------|
| Age: mean (SD)                   | 59.8 (175)    |
| Male                             | 27 (42)       |
| Algorithm risk factors           |               |
| Critical illness                 | 38 (58)       |
| Immunocompromise                 | 16 (25)       |
| Intraocular drug use             | 16 (25)       |
| Recent triazole exposure         | 11 (17)       |
| Recent C. krusei or glabrata     | 4 (6)         |
| Complicated bloodstream infection| 8 (12)        |
| ≥1 algorithm risk factor         | 49 (71)       |

**Figure 1.** Frequency (%)

**Figure 2.** Empiric Treatment of Candidemia

**Figure 3.** Appropriateness of Empiric Therapy

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194. Clinical Experience with Telavancin for the Treatment of Patients with Bone and Joint Infections: Preliminary Results from the Telavancin Observational Use Registry (TOUR™)

Methods. The Telavancin Observational Use Registry (TOUR™) is a multicenter chart review study designed to characterize infection types, pathogens, and outcomes of patients treated with TLV in clinical practice. Data from TOUR were used to characterize a subset of bone and joint patients. Clinical data including patient demographics, pathogens, outcomes, and adverse events (AEs) were analyzed. Clinical outcomes were determined by investigators’ assessment.

Results. As of March 31, 2017, data for more than 1000 patients were collected from 46 sites. Of these, 286 patients were treated for bone and joint infections. Among these 286 patients, median age was 57 years (range 18–92 years) and 27% (n = 76) were aged ≥65 years. 66% (n = 189) were male, and 84% (n = 241) were White. The median body mass index was 30.0 kg/m² (range 19.2–62.7 kg/m²). MRSA was the most commonly isolated pathogen at baseline (38%; n = 108). The median TLV daily dose and duration of treatment were 750 mg (range 300–1500 mg) or 8.3 mg/kg (range 3.7–16.9 mg/kg) and 26.5 days (range 1–119 days), respectively. Telavancin was used as second-line therapy in 71% (n = 202) of patients, and the majority of patients (66%; n = 189) were treated as outpatients. Overall, 71% (n = 203) of patients were cured or improved to step-down therapy. 9% (n = 25) failed treatment, 10% (n = 30) had an indeterminate clinical outcome at end of therapy (EOT), and 10% (n = 28) had missing or undocumented outcomes. Among the patients who had outcome assessment (n = 258) at EOT, 79% were cured or improved and 10% failed therapy. AEs were reported in 45 patients; six reported a serious AE, and 32 had AEs leading to TLV discontinuation.

Conclusion. In a real-world setting, once-daily TLV produced a positive clinical response in >70% of patients with difficult-to-treat bone and joint infections and may represent an alternative treatment option.

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195. Low Rate of Microbiologic Relapse in Two-Stage Exchange for Hip Prosthetic Joint Infections

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Background. Prosthetic joint infection (PJI) is a grave complication of total hip arthroplasty (THA). Historically, two-stage arthroplasty exchange has been considered to be the definitive approach to eradicating infection and preserving joint function. However, patients are increasingly presenting with higher rates of comorbidities traditionally associated with poorer orthopedic surgical outcome, including advanced age, obesity and diabetes. We investigated whether two-stage exchange remains effective for THR PJI at an orthopedic specialty hospital, and what were the microbiologic etiologies in repeat infections.

Methods. A retrospective cohort of THA PJI treated with two-stage exchange was identified by query of hospital coding records from 2009 to 2014. The primary endpoint was defined as 2-year implant retention without further surgery. Failure was defined as a recurrence within 2 years. Microbiologic failure was defined as a recurrence of the previously treated organism. Descriptive statistics were completed using Fisher’s exact test for categorical variables and the Mann–Whitney U-test for continuous variables.

Results. One hundred and forty-four patients meeting Musculoskeletal Infection Society International Consensus criteria for THA PJI were identified. The average age was 65 years and 60% were female. One hundred and twenty-seven (88.2%) were cured at 2 years. Pathogens included S. aureus (MSSA, 23%; MRSA, 13%) and coagulase-negative staphylococci (17%), and streptococci (17%). In univariate analysis, no links were noted between primary outcome and patient age, comorbidities (including diabetes and tobacco), BMI, microbiology, or symptom duration. Of the 17 patients who did not meet criteria for success, 11 (65%) were diagnosed with new, microbiologically distinct infection. The remaining six met our criteria for microbiologic failure; four of the six patients had S. aureus infection (three MSSA).

Conclusion. We present 2-year outcomes on a large cohort of THA PJI treated with two-stage exchange arthroplasty. Nearly two-thirds of the patients who failed were found to have a new infection at the time of relapse. Only 4% of the patients in our cohort failed to achieve cure of the primary infection. Two-stage exchange continues to be an effective approach to PJI treatment with a low rate of microbiologic failure.

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