combination therapy in 631 (43%) encounters, which most often included aminoglycosides, colistin or tigecycline. Mortality was 22% in the monotherapy and 25% in the combination therapy group \( (P = 0.08) \).

**Conclusion.** CAV use across US academic medical centers has increased modestly over 3 years. More than 40% of CAV prescriptions appear to be empiric and targeted therapy often occurs without ID consultation at academic centers.

### Table 1: Demographics for Encounters Receiving Ceftazidime-avibactam

| Variable                      | Encounters receiving Ceftazidime-avibactam N (%, 1,000) |
|-------------------------------|----------------------------------------------------------|
| Age (median and IQR)          | 56 (27)                                                  |
| Sex                           |                                                          |
| Male                          | 1254 (59)                                                |
| Female                        | 874 (41)                                                 |
| Race                          |                                                          |
| White                         | 1538 (64)                                                |
| African American              | 462 (22)                                                 |
| Other                         | 240 (11)                                                 |
| Unknown                       | 68 (3)                                                   |
| Comorbid condition            |                                                          |
| Congestive heart failure      | 501 (24)                                                 |
| Diabetes mellitus             | 810 (38)                                                 |
| Transplant                    | 141 (7)                                                  |
| Malignancy                    | 86 (4)                                                   |
| Dialysis                      | 202 (9)                                                  |
| Tracheostomy                  | 423 (20)                                                 |
| Chronic kidney disease        | 667 (31)                                                 |
| Presumed site of infection*    |                                                          |
| Abdominal                     | 330 (16)                                                 |
| Bacteremia                    | 100 (5)                                                  |
| Central nervous system        | 8 (0.4)                                                   |
| Central-venous catheter       | 136 (6)                                                  |
| Respiratory                   | 720 (34)                                                 |
| Skin/soft tissue              | 167 (8)                                                  |
| Urinary                       | 527 (26)                                                 |
| Unknown/other                 | 656 (31)                                                 |

**Admission APR DISK Severity of Illness assignment**

| Minor                          | 12 (1)                                                   |
| Moderate                      | 153 (8)                                                  |
| Major                         | 665 (33)                                                 |
| Extreme                       | 1204 (59)                                                |
| Hospital Region               |                                                          |
| Midwest                       | 30 (13)                                                  |
| Northeast                     | 27 (12)                                                  |
| South                         | 21 (12)                                                  |
| West                          | 14 (15)                                                  |
| Length of stay (median and IQR)| 15 (11)                                                  |
| ICU stay                      | 862 (41)                                                 |

*Not mutually exclusive

1. *Encounter missing APR DISK SOI data*

APR DISK: All patients refined diagnosis related groups (provided by 3M)**

**Figure 1A:** Cumulative Increase in the Number of Hospital Prescribing Ceftazidime-avibactam within the Vizient Database (168 hospitals) by Quarter, 2015Q1-2017Q4

**Figure 1B:** Trends in the Number of Encounters Prescribing Ceftazidime-avibactam by Quarter

#### 2399. β-Lactam Therapy for Potential AmpC-Producing Organisms: A Cohort Study and an Updated Systematic Review and Meta-Analysis

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**Session:** 250. Treatment of AMR Infections

Saturday, October 6, 2018: 12:30 PM

**Background.** Certain organisms, including *Serratia, Providentia, Acinetobacter, Citrobacter, Enterobacter, and Morganella* species (SPACE-M) may possess an inducible broad-spectrum β-lactamase, AmpC, which is not inhibited by most β-lactamase inhibitors. Our objective was to determine whether treating SPACE-M bloodstream infections (BSI) with potentially hydrolyzable β-lactams was associated with increased risk of 30-day mortality.

**Methods.** A retrospective cohort study was performed including all adult cases of bacteremia attributed to SPACE-M species between April 2010 and June 2015 at the McGill University Health Centre (Montreal, Canada). We used multivariable logistic regression to estimate the odds ratio (OR) of death or recurrence within 30 days for potentially hydrolyzable β-lactams vs. other therapies. We then updated a systematic review and meta-analysis comparing carbapenems to β-lactam/β-lactamase inhibitors (BL/BLIs). We included studies published up to December 31, 2017 and calculated the unadjusted OR for mortality within 30 days comparing BL/BLI vs. carbapenems as definitive therapy.

**Results.** Over the 5-year period, there were 173 BSI involving SPACE-M organisms at our center. After adjusting for patient comorbidities and severity of the initial illness, the use of hydrolyzable β-lactams as definitive therapy was not associated with an increased risk of death or recurrence when compared with other antimicrobial agents (OR 1.20, 95% CI 0.40–3.62). The meta-analysis further suggested that patients treated with BL/BLI therapy have similar outcomes to those treated with carbapenems (30-day mortality OR 1.13, 95% CI 0.58–2.20).

**Conclusion.** The use of β-lactam/β-lactamase inhibitors may remain a viable carbapenem-sparing option for patients with potential AmpC-producing organisms.

**Disclosures.** All authors: No reported disclosures.
2400. Activity of a Long-Acting Echinocandin, Rezafungin, Tested Against Invasive Fungal Isolates Collected Worldwide
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Session: 250. Treatment of AMR Infections
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Background. Echinocandins are important agents for treating invasive fungal infections. We evaluated the in vitro activity of rezafungin (RZF; previously CDI01), an echinocandin with extended half-life, and comparators using CLSI broth microdilution methods against 719 invasive fungal isolates collected worldwide during 2017.
Methods. Susceptibility tests were conducted on 616 Candida spp. (6 species), 25 C. neoforans (CNEO) and 18 A. flavus (AFL), as well as 60.4. fumigatus (AFU) for RZF, anidulafungin, caspofungin, micafungin, and azoles. CLSI clinical breakpoint (CBP) and epidemiological cutoff value (ICV) interpretive criteria were applied.
Results. RZF inhibited 100.0% of C. albicans (CA) isolates, 96.3% of C. tropicalis (CT), 93.4% of C. glabrata (CG), 100.0% of C. krusei, and 100.0% of C. dubliniensis at ≤0.12 µg/mL. All but 2 (116/118 [98.3%]) C. parapsilosis (CP) isolates were inhibited by RZF at ≤5.2 µg/mL. Resistance to fluconazole was detected among 10.7% of CG, 10.2% of CF, 1.9% of CT, and 0.7% of CA. The activity of RZF against these 6 Candida spp. was similar to that of the other echinocandins, the vast majority of which were susceptible/wild type (WT) using CBP/ICV. Echinocandins and other triazole displayed good activity against CNEO whereas echinocandins, including RZF, displayed limited activity against CNEO isolates (MIC90 >8 µg/mL). Echinocandins displayed good activity against ASF and AFL, and RZF activity was similar to that of anidulafungin, caspofungin, and micafungin. All isolates displayed WT MIC values for the mold-acting azoles.
Conclusion. Rezafungin was as active as other echinocandins against common fungal organisms recovered from invasive fungal infections. The extended half-life and stability of rezafungin may be very desirable for prevention and treatment, especially in patients who could be discharged on outpatient therapy.
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2401. Risk Factors for Antimicrobial Resistance in Invasive Pneumococcal Disease (IPD) in Toronto, Canada, 2012–2017
Thomas Fear, MD1; Karen Green, MSc, RN1; Agron Plevneshi, BSc2; Jeff Li, BSc2; William Mark, MD, PhD1; Michael A. Pfaller, MD, PhD1; Derek Peel (pop 4.5M). IPD cases are reported to a central office and one isolate/case is serotyped and has antimicrobial susceptibility testing performed by broth microdilution methods against 719 invasive fungal isolates collected worldwide during 2017. IPD cases are reported to a central office and one isolate/case is serotyped and has antimicrobial susceptibility testing performed by broth microdilution methods against 719 invasive fungal isolates collected worldwide during 2017.
Methods. The TIBDN performs population-based surveillance for IPD in Toronto/Peel (pop 4.5M). IPD cases are reported to a central office and one isolate/case is serotyped and has antimicrobial susceptibility testing performed by broth microdilution methods against 719 invasive fungal isolates collected worldwide during 2017. The extended half-life and stability of rezafungin may be very desirable for prevention and treatment, especially in patients who could be discharged on outpatient therapy.
Background. Previous same class antibiotic exposure remains a major predictive factor for macrolide resistance. History of treatment failure is a predictive factor for macrolide and fluoroquinolone failure. HIV infection and immune compromise are risk factors for IPD infection with penicillin resistant pneumococci. Hospital acquisition of infection is no longer a risk factor for fluoroquinolone resistance.
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2402. Daptomycin Pulmonary Eosinophilia: Review of Cases and New Hyperacute Syndromic Presentation
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Session: 250. Treatment of AMR Infections
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Background. Daptomycin pulmonary eosinophilia (DPE) has been described as a rare event. Since the Food and Drug Administration (FDA) first described the syn- drome, there have been over 80 cases worldwide. Current guidelines for use, duration of therapy, time to symptom onset, Creatinine clearance, white cell count (WCC), Neutrophil Count (Neu), Sepsis (Seeso), admission to intensive care unit (ICU), and clinical outcomes or interventions.
Results. There were 363 unique initiations of Daptomycin in the time period. There were 17 DPE (5%) and 3 CPK (0.6%) events in this time period. The medians for age (41 years) and time to symptom onset (87 days) were lower than previously reported. All patients had a previous history of antibiotic therapy.
Conclusion. DPE may be underreported and is associated with doses of 500 mg or >7 kg/kg, with CrCl <35 mL/minute and older age. Of concern are the new cases of hyperacutie DPE within 48 hours of re-exposure to daptomycin that we have seen, who had prior low grade eosinophilia. Close monitoring of these factors may be warranted at risk individuals.
Disclosures. All authors: No reported disclosures.
2403. Comparison of Daptomycin Combination Therapy With Ceftaroline or Oxacillin Against Methillin-Resistant Staphylococcus aureus (MRSA) Isolates Causing Persistent Bacteremia
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Session: 250. Treatment of AMR Infections
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Background. Increasing evidence suggests that daptomycin (DAP) demonstrates in vitro synergy in combination with other anti-staphylococcal agents, including cef- tuloxiline (CT) and oxacillin (OXA), against MRSA. Nevertheless, optimal combina- tions remain undefined. Here, our objective was to compare DAP in combination with CPT or OXA against MRSA bloodstream isolates collected from patients with persistent bacteremia despite >7 days of prior antimicrobial therapy.
Methods. Minimum inhibitory concentration (MIC) breakpoints for DAP, CPT, and OXA were determined in duplicate by reference broth microdilution methods. We used time-kill analyses (TKA) to test free peak concentrations (Cmax) of DAP (8 µg/mL), CPT (16 µg/mL), and OXA (4 µg/mL) alone and in combination against 1 × 106 CFU/mL to simulate high-inocula infections. Bactericidal and synergistic activity were defined as a ≥2-log10 decrease in CFU/mL and ≥2-log10 decrease in CFU/mL in combination compared with the most active single agent, respectively.
Results. A representative isolate was selected from 12 patients with persistent MRSA bacteremia. Median (range) MICs were 0.5 (0.5–1), 0.5 (0.5–1), and 64 (64–2128) µg/mL for DAP, CPT, and OXA, respectively. By TKA (n = 5 isolates), median log-kills were −3.81, −1.90, and +1.99 log10 CFU/mL for DAP, CPT, and OXA, respectively. MIC50s for CPT and OXA against 80% and 60% of isolates, respectively. In combination, median log-kills were −7.83 and −4.82 log10 CFU/mL for DAP+CPT and DAP+OXA, respectively (P = 0.111; Figure 1). DAP was synergistic in combination with CPT or OXA against 80% and 60% of isolates, respectively. Median log-kills in combination with CPT or OXA were higher than DAP alone (P = 0.003 and P = 0.0497, respectively). At 24 hours, colony counts were below the lower limit of detection (50}