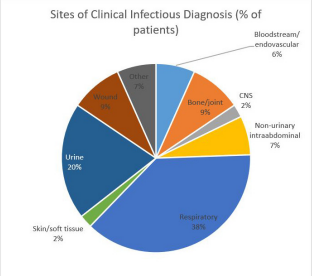

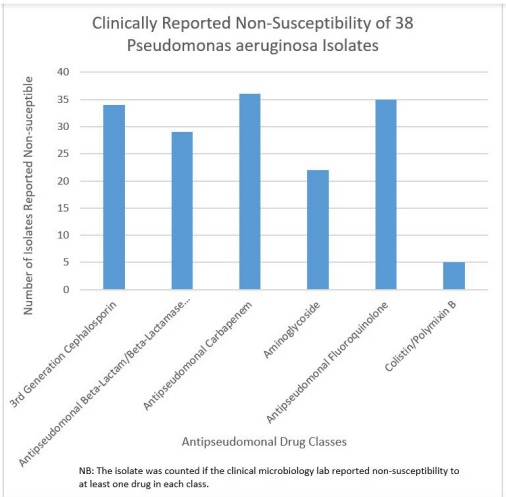

Disclosures: Samuel L. Aitken, PharmD, Melinta Therapeutoics: Grant/Research Support, Research Grant; Merck, Sharpe, and Dohme: Advisory Board; Shionogi: Advisory Board.

2249. Impact of Minimum Inhibitory Concentration on Clinical Outcomes of Daptomycin for VRE Bloodstream Infection Among Neutropenic Oncology Patients

Elisabeth Caulder, PharmD; Elizabeth Palavecino, MD;
James Beardsley, PharmD; James Johnson, PharmD; Vera Luther, MD;
Christopher Ohl, MD; John Williamson, PharmD; Wake Forest Baptist Health System, Winston Salem, North Carolina

Session: 246. Clincal Outcomes of Infections with Resistant Organisms
Saturday, October 5, 2019: 12:15 PM

Background. Vancomycin-resistant Enterococcus (VRE) bloodstream infection (BSI) is a significant cause of morbidity and mortality in immunocompromised patients. This study aimed to assess the impact of daptomycin (DAP) MIC on outcomes of treatment for VRE BSI in neutropenic oncology patients.

Methods. This was a retrospective, observational, single-center, cohort study at an academic medical center. Included: age ≥ 18, neutropenia, admitted to oncology unit, and DAP for VRE BSI. Excluded: death within 24 hours after initiation of DAP, polymicrobial BSI, and linezolid use for > 48 hours before DAP initiation. Patients with VRE BSI 2008–2018 were identified using a report from the micro lab. Data were collected by electronic medical record review. The primary outcome of the study was clinical success, defined as culture sterilization, hypotension resolution, defervescence, and no need to change DAP due to persistent signs/symptoms of infection. Patients were analyzed according to DAP MIC ≤ 2 vs. ≥ 4 mg/L. Multivariable logistic regression analysis was performed to identify factors associated with clinical success.

Results. 44 patients met study criteria (MIC ≤ 2, n = 26; MIC ≥ 4, n = 18). Mean age was 58 years, 59% were male, and median ANC was 0. Median Charlson Comorbidity Index Score and Pitt Bacteremia Score (Pitt) were 5 and 1, respectively. 34% required ICU admission. More patients achieved clinical success with MIC ≤ 2 (88% vs. 56%; P = 0.03). Time to success (2.4 vs. 4 days, P = 0.02) and time to culture sterilization (2.2 vs. 2.9 days, P = 0.24) were shorter with MIC ≤ 2. Mortality was similar between groups (31% vs. 33%). Time to culture sterilization (P = 0.008), neutropenia resolution (P = 0.02), MIC group (P = 0.096), and Pitt (P = 0.52) were included in the multivariable model.

Conclusion. DAP MIC should be considered when choosing therapy for VRE BSI among neutropenic oncology patients, particularly those expected to have prolonged neutropenia and those with persistently positive cultures.

	Success (n=33)	Failure (n=11)	p
Age	58	58	0.55
ICU, %	30	45	0.47
Serum creatinine, mg/dL	0.75	1.2	0.32
Pitt	1	2	0.02
MIC ≤ 2, %	70	27	0.03
Time to sterilization, days	2.3	4.7	<0.001
Time to defervescence, days	1.55	2.13	0.87
Neutropenia resolution, %	45	0	0.01
DAP dose, mg/kg	7.3	7.6	0.74

Disclosures. **All authors:** No reported disclosures.

2250. Combination Vancomycin Plus Cefazolin for Methicillin-Resistant *Staphylococcus aureus* Bloodstream Infections

Sarah CJ. Jorgensen, PharmD, BCPS[1]; Trang D. Trinh, PharmD, MPH[2];
Evan J. Zasowski, PharmD, MPH[3]; Sara Alosaimy, PharmD, BCPS[1];
Sarah Melvin, RN[1]; Sahil Bhatia, MPH [1]; Sorabh Dhar, MD[4];
Ryan P. Mynatt, PharmD, BCPS-AQ ID[5];
Jason M. Pogue, PharmD, BCPS, BCIDP[6]; Michael J. Rybak, PharmD, MPH, PhD[7];
[1]Wayne State University, Detroit, Michigan; [2]University of California San Francisco, San Francisco, California; [3]Tuoro University California, Vallejo, California; [4]Detroit Medical Center, Wayne State University, John D Dingell VA medical center, Detroit, Michigan; [5]Detroit Medical Center, Detroit, Michigan; [6]University of Michigan College fo Pharmacy, Ann Arbor, Michigan; [7]Anti-Infective Research Laboratory, College of Pharmacy and Health Sciences, Wayne State University, Detroit, Michigan

Session: 246. Clincal Outcomes of Infections with Resistant Organisms
Saturday, October 5, 2019: 12:15 PM

Background. Combination β-lactam and vancomycin (VAN) prevent the emergence of resistance and result in synergistic antimicrobial activity against methicillin-resistant *Staphylococcus aureus* (MRSA) *in vitro*. We sought to provide clinical translation to these data and determine if patients with MRSA bloodstream infection (BSI) treated with VAN + cefazolin (VAN/CFZ) via our MRSA BSI clinical pathway had improved clinical outcomes compared VAN alone.

Methods. Multicenter, retrospective, comparative cohort study from 2006 to 2019 in adults with MRSA BSI treated with VAN for ≥ 72 hours. VAN/CFZ was defined as VAN + CFZ within ≤ 72 hours of index culture for ≥ 24 hours. Other β-lactams were allowed for < 48 h in the VAN/CFZ group. The VAN alone group could not have other β-lactams within 7 days of treatment initiation. The primary outcome was clinical failure defined as a composite of 30-d all-cause mortality, 60-day recurrence, and persistent BSI (≥ 7 days). The independent effect of VAN/CFZ on clinical failure was evaluated with multivariable logistic regression. The primary safety endpoint was nephrotoxicity within 7 days of treatment initiation.

Results. A total of 237 patients were included (104 VAN/CFZ, 133 VAN). The most common BSI sources were skin/soft tissue (29.1%), IV catheter (21.9%), osteoarticular (20.3%) and infective endocarditis (16.0%). Demographic and clinical characteristics were similar between groups except VAN/CFZ had a higher median APACHE II score (18 vs. 13, P = 0.011). VAN/CFZ patients were also more likely to have received an infectious disease consult (100% vs. 81.2%, P < 0.001). Median (IQR) duration of CFZ was 115 (87–164) hours. After controlling for age, APACHE II score, ID consult and infection source, VAN/CFZ was associated with reduced odds of clinical failure (aOR 0.425, 95% CI 0.228, 0.792). Bivariate outcomes are shown in the table:

Conclusion. Patients with MRSA BSI treated with VAN/CFZ vs. VAN experienced fewer clinical failures, supporting additional studies evaluating the role of adjuvant CFZ for MRSA BSI.

	VAN/CFZ n=104 n (%)	VAN n=133 n (%)	P value
Clinical failure	26 (25.0)	49 (36.3)	0.052
30-d mortality	8 (7.7)	11 (8.3)	0.871
60-d recurrence	7 (6.7)	16 (12.0)	0.171
BSI ≥ 7 d	17 (16.3)	32 (24.1)	0.146
Nephrotoxicity	4 (3.8)	10 (7.5)	0.234

Disclosures. **All authors:** No reported disclosures.

2251. Estimating the Need for Novel Gram-Negative Active Antibiotics in US Hospitals

Jeffrey R. Strich, MD[1]; Sarah Warner, MPH[1]; Yi Ling Lai, MPH[2];
Cumhur Y. Demirkale, PhD[1]; John H. Powers, MD[3];
Robert L. Danner, MD[1]; Sameer S. Kadri, MD, MS[4]; [1]National Institutes of Health, Bethesda, Maryland; [2]National Institutes of Allergy and Infectious Disease, National Institutes of Health, Bethesda, Maryland; [3]Support to National Institute of Allergy and Infectious Disease, Bethesda, Maryland; [4]NIH Clinical Center, Bethesda, Maryland

Session: 246. Clincal Outcomes of Infections with Resistant Organisms
Saturday, October 5, 2019: 12:15 PM

Background. Assessing the unmet need for novel antibiotics could inform appropriate utilization, enrollment in trials and ensure balance in aligning incentives and investments in therapeutic development.

Methods. The *Cerner Healthfacts* electronic health record repository was queried to identify inpatient treatment opportunities for Gram-negative active agents (GNAA) displaying either difficult-to-treat resistance (DTR; resistance to all β-lactams including carbapenems and fluoroquinolones) or extended-spectrum cephalosporin resistance (ECR). The former was quantified by aggregating episodes of confirmed DTR infection (i.e., DTR strain isolated and concomitant antibiotic(s) received) or suspected (i.e., 1–2 days of empiric colistin/polymyxin-B or aminoglycosides and no DTR pathogen isolated). Aggregate days of therapy (DOT) were reported as a range, multiplying episodes by site-specific or uniform 14-day treatment durations, respectively. Recursive partition and cluster analyses were performed for hospital characteristics and contributions of outbreaks to DTR treatment opportunities, respectively.

Results. Between 2009 and 2015, across 2,996,271 encounters, 1,352 episodes of potential targeted treatment were identified, which combined with empiric treatment episodes, represent 39–138 DOT/10,000 encounters for a DTR-GNAA. Similarly, 9,535 episodes of potential targeted therapy for an ECR-GNAA were identified (representing 211-466 DOT/10,000 encounters). The most common candidate site and pathogens for DTR-GNAA were lower respiratory and *A. baumannii* and *P. aeruginosa*