Methods. A retrospective review was conducted on 400 randomly selected patients with SAB, 200 pre- and 200 post-implementation of a four-part management checklist. The primary outcome was overall adherence to the checklist, which included: repeat blood cultures, echocardiography, correct antibiotic/route selection, and appropriate antibiotic duration. Secondary outcomes included adherence when an ID physician was not consulted, adherence to the four components individually, and appropriate imaging.

Results. Adherence to the four part bundle remained stable from 2015 to 2017, with overall adherence rates of 80% and 79%, respectively. From 2015 to 2017, patients without repeat blood cultures (7% vs. 2%, respectively) and inappropriate inpatient antibiotic selection (6% vs. 3%, respectively) improved. Outpatient prescribing (11% vs. 11%), lack of imaging (11% vs. 9%), and antibiotic duration (15% vs. 15%) were consistent from 2015 to 2017, respectively. In 2017, 13 patients were discharged on oral antibiotics and were deemed inappropriate per the study criteria, although 12 of these patients were on appropriate antibiotics while inpatient. Infectious diseases providers were consulted on 96% of cases in 2017, an increase from 90% in 2015.

Conclusion. Adherence to an evidence based treatment bundle remains consistent with a previous analysis, despite an increase in cases with an ID provider consulted. Repeating blood cultures and inpatient prescribing improved over the interval. Focus areas for improvement include imaging, outpatient prescribing, and duration of therapy.

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

1066. Adjuvant β-Lactam Therapy Combined with Vancomycin for Methicillin-Resistant *Staphylococcus aureus* (MRSA) Bacteremia: Does β-Lactam class Matter?

Thomas J. Dilworth, PharmD[1]; Anthony M Casapao, PharmD[2]; Omar M. Ibrahim, PhD[3]; David M. Jacobs, PharmD[4]; Dana R. Bowers, PharmD[5]; Nicholas D. Beyda, PharmD[6] and Renee-Claude Mercier, PharmD[7]; [1]Department of Pharmacy Services, Aurora Health Care, Milwaukee, Wisconsin, [2]Pharmacotherapy and Translational Research, University of Florida College of Pharmacy, Jacksonville, Florida, [3]Independent Researcher, Gainesville, Florida, [4]University at Buffalo School of Pharmacy and Pharmaceutical Sciences, Buffalo, New York, [5]Washington State University College of Pharmacy and Pharmaceutical Sciences, Yakima, Washington, [6]University of Houston College of Pharmacy, Houston, Texas, [7]University of New Mexico College of Pharmacy, University of New Mexico College of Pharmacy, Albquerque, New Mexico

Session: 131. Bacteremia and Endocarditis
Friday, October 5, 2018: 12:30 PM

Background. Vancomycin (VAN) combined with a β-lactam (COMBO) expedites MRSA bacteremia clearance compared with VAN alone. However, the impact of COMBO on persistent MRSA bacteremia (PB) using a contemporary definition of ≥5 days is unknown. There is also no consensus on which β-lactam (BL) should be combined with VAN. We sought to assess PB rates among adults who received COMBO or VAN and the impact of BL class on PB.

Methods. This was an analysis of pooled data from two published studies of adults with MRSA bacteremia (Dilworth et al., *Antimicrob Agents Chemother.* 2014;58(1):102–109; Casapao et al., *Pharmacotherapy.* 2017;37(11):1347–1356). All patients received intravenous VAN for ≥72 hours. COMBO patients received an intravenous BL for ≥48 hours with VAN, started within 24 hours of VAN. The remaining patients comprised the VAN group. The primary outcome was PB (≥5 days). The impact of BL class on PB was assessed. Acute kidney injury (AKI, serum creatinine increase from baseline by 0.5 mg/dL or 50%) was examined as a secondary outcome. Demographics were compared between groups. Multivariable logistic regression models compared PB between COMBO and VAN.

Results. In total, 156 patients were included (VAN = 66; COMBO = 90). The groups were similar except COMBO patients were more likely to have a pulmonary bacteremia source (12.2% vs. 1.5%, $P = 0.014$) and a higher median (IQR) vancomycin serum level (mg/L, 17.8 (13.9, 23.6) vs. 15.7 (11.3, 20.6); $P = 0.039$). PB was less common in COMBO (26.7% vs. 43.9%, $P = 0.027$). In a multivariable model COMBO was inversely associated with PB (adjusted odds ratio [aOR], 95% confidence intervals [CI], 0.48, 0.24–0.95). AKI was more common in COMBO (18.9% vs. 7.6%, $P = 0.062$). PB and AKI rates by BL class are shown in the table below, with VAN listed for reference.

Variable, *n* (%)	Carbapenem, *n* = 8	Cephalosporin, *n* = 25	Penicillin, *n* = 56	*P*-value	VAN, *n* = 66
PB	0 (0)	8 (32)	15 (26.8)	0.191	29 (43.9)
AKI	1 (12.5)	4 (16)	12 (21.4)	0.749	5 (7.6)

Conclusion. COMBO reduced the likelihood of PB but had a higher AKI rate. There were no significant differences in PB by BL class. Clinically, COMBO may reduce PB rates and prevent overuse of salvage antibiotic therapy. BL choice for COMBO warrants further investigation.

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

1067. Comparative Effectiveness of Nafcillin or Oxacillin, Cefazolin, and Piperacillin/Tazobactam in Methicillin-Sensitive *Staphylococcus aureus* Bacteremia

Maya Beganovic, PharmD, MPH[1,2]; Jaclyn Cusumano, PharmD[1,2]; Vrishali Lopes, MS[1]; Kerry LaPlante, PharmD, FCCP, FIDSA[1,2,3,4] and Aisling Caffrey, PhD, MS[1,2,3]; [1]Providence Veterans Affairs Medical Center, Providence, Rhode Island, [2]College of Pharmacy, University of Rhode Island, Kingston, Rhode Island, [3]Center of Innovation in Long-Term Support Services, Providence Veterans Affairs Medical Center, Providence, Rhode Island, [4]Division of Infectious Diseases, Warren Alpert Medical School of Brown University, Providence, Rhode Island

Session: 131. Bacteremia and Endocarditis
Friday, October 5, 2018: 12:30 PM

Background. β-Lactam antibiotics are recommended as first line for treatment of methicillin-sensitive *Staphylococcus aureus* (MSSA) bacteremia. The objective of this study was to compare effectiveness among β-lactam therapies in MSSA bacteremia patients that were exclusively treated with one antibiotic.

Methods. This was a retrospective cohort study of patients hospitalized at Veterans Affairs (VA) medical centers with MSSA bacteremia from January 1, 2002 to October 1, 2015. Patients were included if they were treated exclusively with nafcillin, oxacillin, cefazolin, or piperacillin/tazobactam (i.e., monotherapy with no changes in therapy). The primary outcome was 30-day mortality, and secondary outcomes were time to discharge, inpatient mortality, 30-day readmission, and 30-day *S. aureus* reinfection. Hazard ratios (HRs) and 95% confidence intervals (CI) were calculated using unadjusted, quintile adjusted, and propensity-score (PS) matched (nearest neighbor, 0.05 caliper) Cox proportional hazards regression.

Results. A total of 326 patients were included in the final analysis. When comparing nafcillin ($n = 75$)/oxacillin ($n = 30$) with cefazolin ($n = 108$), 30-day mortality was similar between groups (PS matched $n = 40$, HR 4.0, 95% CI 0.45–35.79), as were rates of the other outcomes assessed. When combining nafcillin/oxacillin with cefazolin, and comparing to piperacillin/tazobactam ($n = 113$), 30-day mortality was significantly lower in the nafcillin/oxacillin/cefazolin group (PS matched $n = 66$, HR 0.29, 95% CI 0.09–0.87). Inpatient mortality and 30-day mortality were significantly lower with nafcillin/oxacillin/cefazolin in PS-adjusted analyses (HR 0.29, 95% CI 0.11–0.73 and HR 0.23, 95% CI 0.10–0.50, respectively).

Conclusion. In hospitalized patients with MSSA bacteremia, no difference in mortality was observed between nafcillin/oxacillin and cefazolin in patients that were exclusively treated with these monotherapies. However, higher mortality was observed with piperacillin/tazobactam as compared with nafcillin/oxacillin/cefazolin, suggesting that it may not be as effective as other monotherapies for MSSA bacteremia.

Disclosures. **K. LaPlante**, Merck: Grant Investigator, Research grant. Pfizer Pharmaceuticals: Grant Investigator, Research grant. Allergan: Scientific Advisor, Honorarium. Ocean Spray Cranberries, Inc.: Grant Investigator and Scientific Advisor, Honorarium and Research grant. Achaogen, Inc.: Scientific Advisor, Honorarium. Zavante Therapeutics, Inc.: Scientific Advisor, Honorarium. **A. Caffrey**, Merck: Grant Investigator, Research grant. The Medicine's Company: Grant Investigator, Research grant. Pfizer: Grant Investigator, Research grant.

1068. Evaluation of Cefazolin vs. Anti-Staphylococcal Penicillins for the Treatment of Methicillin-Susceptible *Staphylococcus aureus* Bloodstream Infections in Acutely-Ill Adult Patients: Results of a Systematic Review and Meta-Analysis

Benjamin J. Lee, PharmD, BCPS[1,2]; Janie K. Constantino-Corpuz, PharmD Candidate[3]; Kristel Apolinario, PharmD Candidate[3]; Sheila K. Wang, PharmD, BCPS[4,5]; Barbara Nadler, MS[6]; Marc H. Scheetz, PharmD, MSc, BCPS AQ-ID[4,5] and Nathaniel J. Rhodes, PharmD, MSc, BCPS[4,5]; [1]Department of Pharmacy, Norris Comprehensive Cancer Center, University of Southern California, Los Angeles, California, [2]Department of Pharmacy, University of California Irvine Health, Orange, California, [3]Midwestern University, Chicago College of Pharmacy, Downers Grove, Illinois, [4]Department of Pharmacy, Northwestern Medicine, Chicago, Illinois, [5]Department of Pharmacy Practice, Midwestern University, Chicago College of Pharmacy, Downers Grove, Illinois, [6]Midwestern University, Library Sciences, Glendale, Arizona

Session: 131. Bacteremia and Endocarditis
Friday, October 5, 2018: 12:30 PM

Background. Anti-staphylococcal penicillins (ASPs) have been regarded as first-line in the treatment of serious MSSA bloodstream infections (BSI) with cefazolin considered an alternative. Recent studies have suggested that infection outcomes between cefazolin and ASPs may be similar. The objective of this study was to compare the clinical efficacy and tolerability of cefazolin to ASPs for MSSA BSI.

Methods. A systematic review and meta-analysis was conducted. Articles were identified via PubMed, Web of Science, and the Cochrane Library. Studies written in English comparing cefazolin to ASPs for MSSA BSI in adult patients were included. Study quality was assessed using the Cochrane Risk of Bias Assessment Tool and the Newcastle-Ottawa Scale for prospective and retrospective studies, respectively. All review stages were independently conducted by two reviewers, with a third reviewer adjudicating any discrepancies. The fixed- or random-effects model was utilized, as appropriate. A planned subgroup analysis was conducted between high (>15%) vs. low (<14.9%) mortality probability as defined by logit functions applied at the study level.

Results. Nine studies were identified. Pooled data extracted from 1,726 cefazolin- and 2,716 ASP-patients indicated that cefazolin was associated with a significant reduction in treatment failure (OR: 0.70; 95% CI: 0.61–0.82; $P < 0.001$; $I^2 = 14\%$) and crude, all-cause mortality (OR: 0.69; 95% CI: 0.59–0.81; $P < 0.001$; $I^2 = 18\%$) compared with ASPs. Within a subset of studies ($n = 6$) demonstrating low mortality probability (<14.9%), cefazolin therapy remained protective against failure (OR: 0.70; $P < 0.001$; $I^2 = 39\%$) and mortality (OR: 0.70; $P < 0.001$; $I^2 = 35\%$). Within the high mortality probability (>15%) subset, no significant differences for failure or mortality were noted. The risk of adverse events was higher with ASPs (OR: 2.58; 95% CI: 1.00–6.64; $P = 0.05$).

Conclusion. Cefazolin was associated with significantly lower rates of failure, mortality, and treatment-related adverse events when compared with ASPs among less