in 90.4% (91.2% in E. coli, 88.7% in K. pneumonia) of cases. This rate increased to 95.3% (96.0% in E. coli, 93.8% in K. pneumonia) for modified empiric treatment. The most commonly prescribed initial empiric BL was piperacillin/tazobactam, observed in 55% of treated patients, followed by ceftriaxone and ceftazidime in 14% and 11% of treated patients, respectively. Carbapenems were included in 8% of initial and 13% of modified empiric treatments.

Conclusion. In this cohort of older patients with E. coli and K. pneumonia BSI, higher rates of effective BL empiric treatment were achieved after GS results. BL empiric regimens consisted mostly of broad-spectrum agents. These observations highlight the potential utility of a diagnostic tool available shortly after specimen collection to inform treatment and improve patient outcomes.

Disclosures. All authors: No reported disclosures.

1042. *Stenotrophomonas maltophilia* Bacteremia, A 10-Year Tertiary Center Experience

Ahmed Hamdli, MD; Madhia Fida, MD; Omar AbuSaleh, MD; and Elena Beam, MD. Infection Disease, Mayo Clinic, Rochester, Minnesota, Mayo Clinic, Rochester, Minnesota, Infectious Disease, Mayo School of Graduate Medical Education, Rochester, Minnesota

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

Background. *Stenotrophomonas maltophilia* is a hospital acquired infection that is associated with high morbidity and mortality. There has been a reported rise in *S. maltophilia* infections, presumed secondary to the increase in the population at risk.

Methods. We retrospectively reviewed all hospitalized patients with *S. maltophilia* bacteremia from January 2008 through January 2018. We analyzed patient population and described patients at risk, sources of infection, and changes in antimicrobial susceptibility profile.

Results. A total of 94 patients were analyzed, including 52 males, median age of 56 (46–65.75 IQR). The population included 60 infections in those with malignancies and 30 infections in transplant recipients. At presentation, 58 (61.7%) were febrile, while 54 (58.1%) presented with hemodynamic instability. Majority (70.2%) received broad-spectrum antimicrobials within 2 weeks of presentation. The most common source was catheter associated infection (n = 60), 15 cases were secondary to gastrointestinal, and 9 due to a pulmonary source. Almost half, 46 (48.9%) presented with hemodynamic instability. Almost half, 46 (48.9%) required ICU admission. Two patients were diagnosed with endocarditis. Most isolates, 61(64.9%), were resistant to ceftazidime, 2 (2.2%) resistant to TMP/SMX and 20 (21.5%) were resistant to levofloxacin. Exposure to a quinolone in the 30 days prior to presentation did not impact fluoroquinolone resistance. Five patients were exposed to Trimethoprim/Sulfamethoxazole (TMP/SMX) in the 30 days prior to presentation, which was associated with higher rate of TMP/SMX resistance compared with those without exposure (80% vs. 98.8%, P = 0.004). Treatment options commonly included combination therapy, and TMP/SMX was a primary agent used in the majority, 59 (62.8%). All-cause in-hospital mortality was 26.6%. All-cause mortality was lower for line associated infections (16.67%) vs. other sources (44.12%) with P = 0.0038.

Conclusion. *S. maltophilia* bacteremia should be considered in hospitalized patients with recent use of broad-spectrum antibiotics. Although TMP/SMX continues to have reliable activity, use of empiric ceftazidime pending susceptibility testing should be avoided as trend toward increasing resistance is noted. We noted a drop in TMP/SMX susceptibility in those with recent reported TMP/SMX use.

Disclosures. All authors: No reported disclosures.

1041. How Do Healthcare Providers Approach Empiric β-Lactam (BL) Treatment of Bloodstream Infections (BSI) Caused by Gram-Negative Rods (GNRs)?

Analysis of *Escherichia coli* and *Klebsiella pneumoniae* BSI From the Veterans Health Administration (VHA)

Roberto Vial, MD; Brigid Wilson, PhD; Scott R. Evans, PhD; Federico Perez, MD, MS; Henry F. Chambers, MD; Vance G. Fowler Jr, MD; Barry N. Kreiswirth, PhD; Robert A. Bonomo, MD and ARLG. Louis Stokes Cleveland Department of Veterans Affairs Medical Center, Cleveland, Ohio, 3Harvard School of Public Health, Boston, Massachusetts, 4Clinical Research Services, University of California San Francisco, Clinical and Translational Sciences Institute, San Francisco, California, 5Duke University Medical Center, Durham, North Carolina, 6Public Health Research Institute, Rutgers New Jersey Medical School, Newark, New Jersey

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

Background. Physicians make decisions regarding antimicrobial chemotherapy based on clinical and demographic factors, choosing initial empiric therapy without knowing the pathogen or its susceptibilities. Given the various treatment options and resistance mechanisms, treatment of GNR BSI is challenging with 30-day mortality of 40%. Of those, 37% had ciprofloxacin-resistant *Pseudomonas*. We excluded 68 patients due to polymicrobial bacteremia, <3 days, or >21 days of therapy. This left 54 patients for evaluation, 29 of whom received IV only, and 25 with IV to PO switch therapy.

Results. Median patient age was 66 years for both groups. IV only therapy was associated with Hispanic ethnicity (48% vs. 28%, P = 0.0271), hospital acquired infection (52% vs. 13%, P = 0.0035), Pitt bacteremia score (median [interquartile range] of 3 [2–3] vs. 1 [0–2], P = 0.0007), duration of IV therapy (median [interquartile range] of 11 [7–14] vs. 4 [2–6], P = 0.0001), and 30-day mortality (31% vs. 0%, P = 0.0023). The IV only group was more likely to have an associated diagnosis of pneumonia (44% vs. 16%, P = 0.0264) and less likely to have an associated diagnosis of urinary tract infection (17% vs. 60%, P = 0.0021). In a multivariate analysis, with IV only vs. PO switch therapy as the independent variable, mortality as the dependent variable, and pneumonia and UTI as covariates, IV only was associated with independently with mortality (P = 0.0006).

Conclusion. Patients on IV only therapy were more likely to die at 30 days than those on IV to PO switch therapy; when accounting for differences in diagnosis of pneumonia and UTI, suggesting clinician recognition of increased severity of illness in the IV only group.

Disclosures. All authors: No reported disclosures.

Posters Abstracts • OFID 2018:5 (Suppl 1) • S311
1043. Evaluation of Early Clinical Failure Criteria for Gram-Negative Bloodstream Infections

Hana Rac, PharmD1; Alyssa Gould, PharmD2; Brandon Bookstaver, PharmD, FCCP, FIDSA, BCPS, AAHIVP3; Julie Ann Justo, PharmD, MS3; Joseph Kohn, PharmD, BCPS4 and Majdi N. Al-Hassan, MBBS5. 1Department of Clinical Pharmacy and Grossman School of Public Health, University of South Carolina College of Pharmacy, Columbia, South Carolina, 2Novant Health Presbyterian Medical Center, Novant Health, Charlotte, North Carolina, 3Palmerton Health Richmond, Columbia, South Carolina, 4Department of Medicine, Palmerton Health/University of South Carolina Medical Group, Columbia, South Carolina, 5University of South Carolina School of Medicine, Columbia, South Carolina

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

Background. Early identification of patients at high risk of morbidity and mortality following Gram-negative bloodstream infections (GN-BSI) based on initial clinical course may prompt adjustments to optimize diagnostic and treatment plans. This retrospective cohort study aims to develop early clinical failure criteria (ECFC) to predict unfavorable outcomes in patients with GN-BSI.

Methods. Adults with community-onset GN-BSI who survived hospitalization for at least 96 hours at Palmerton Health hospitals in Columbia, SC, USA from January 1, 2010 to June 30, 2015 were identified. Multivariate logistic regression was used to examine association between clinical variables within 72–96 hours of BSI and unfavorable outcomes (28-day mortality or hospital length of stay >14 days).

Results. Among 766 patients with GN-BSI, 225 (29%) had unfavorable outcomes. After adjustments for Charlson Comorbidity Index and appropriateness of empiric antibiotic selection, factors from a multivariate model, predictors of unfavorable outcomes, included: patients with AZT included systolic blood pressure <100 mmHg or vasopressor use (adjusted odds ratio [aOR] 1.8, 95% confidence interval [CI] 1.1–2.5), heart rate >100/min (aOR 1.7, 95% CI 1.3–2.5), respiratory rate ≥22/min or mechanical ventilation (aOR 2.1, 95% CI 1.4–3.3), C-reactive protein ≥20 mg/L (aOR 4.5, 95% CI 2.3–8.7), and neutrophil count >12 × 10^9/L (aOR 2.7, 95% CI 1.8–4.1) at 72–96 hours from index BSI. Area under operating characteristic curve of ECFC model in predicting unfavorable outcomes was 0.77 (0.84 and 0.71 in predicting 28-day mortality and prolonged hospitalization separately, respectively). Predicted 28-day mortality increased from 1% in patients with no ECFC to 3%, 7%, 16%, 32%, and 54% in presence of each additional criterion (P < 0.001). Predicted hospital length of stay was 7.5 days in patients without any ECFC and increased by 4.0 days (95% CI 3.1–4.9, P < 0.001) in presence of each additional criterion.

Conclusion. Identification of patients with prolonged hospitalization or unfavorable outcomes in bacteremic patients treated with either AZT or CEP therapy.

Disclosures. P. B. Bookstaver, CutisPharma: Scientific Advisor, <$1,000. Melinta Therapeutics: Speaker’s Bureau, <$1,000.

1044. Aztreonam (AZT) vs. Cephalosporin (CEP) Therapy for the Treatment of Gram-Negative Bacteremia

Sunish Shah, PharmD1; Kyle Krevolin, MT2 and Tiffany Bias, PharmD, BCPS, AAHIVP3; Hahnemann University Hospital, Philadelphia, Pennsylvania, 2Hahnemann University Hosp., Philadelphia, Pennsylvania, 3Nabriva Therapeutics US, King of Prussia, Pennsylvania

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

Background. The IDSA recommends use of AZT in patients with a confirmed beta-lactam allergy for nosocomial Gram-negative infections. Despite this recommendation, there is limited data to suggest AZT is inferior to cephalosporins (CEP) for the treatment of Gram-negative bloodstream infections. This study aims to calculate clinical outcomes in bacteremic patients treated with either AZT or CEP therapy.

Methods. A single-center, retrospective chart review of adult patients with positive blood cultures for Escherichia coli, Klebsiella pneumoniae or Pseudomonas aeruginosa was conducted to compare clinical outcomes between those who received ≥48 hours of AZT or CEP therapy (cefepime or ceftriaxone). The following outcomes were assessed: clinical cure, in-hospital mortality, post-infection length of stay (LOS), post-infection intensive care unit LOS, microbiologic cure and leukocytosis resolution.

Results. One-hundred and twenty-nine patients met criteria for evaluation: 41 received AZT and 88 received CEP. Patients who received AZT were more likely to have renal dysfunction (34.1% vs. 18.2%, P = 0.046), receive synergistic antimicrobials (61% vs. 28.4%, P = 0.001) and had a longer post-infection LOS (1 day [0–2] vs. 0 [0–1], P = 0.032) compared with those who received CEP. Although in-hospital mortality rates were similar between both groups (2.4% vs. 3.4%, P = 1.000), there was a statistically significant difference in clinical cure rates (70.7% vs. 90.9%, P = 0.003), post-infection length of stay (7 days [5–10] vs. 5–8, P = 0.007), and time to clinical cure (2.8 days [1.6–5.8] vs. 2.0 [1.2–2.9], P = 0.018) in the AZT and CEP groups respectively. In a multivariate logistic regression model, patients who received AZT were significantly less likely to achieve clinical cure (OR=0.187, 95% CI (0.058–0.597). In a pre-determined subgroup analysis, clinical cure rates varied in E. coli (72% vs. 94.4%, P = 0.009), K. pneumoniae (70% vs. 90.5%, P = 0.296) and P. aeruginosa (66% vs. 100%, P = 0.009), respectively. Patients who received AZT were more likely to experience clinical failure. Larger, prospective studies are warranted to confirm these findings.

Disclosures. All authors: No reported disclosures.

1045. A Multicenter Propensity Score-Adjusted Retrospective Study for Comparison of the Outcome of Treatment With Third-Generation Cephalosporin vs. Broad-Spectrum Antibiotics for Enterobacter Bacteremia

Satoshi Hayano, MD1; Shungo Yamamoto, MD2; Ryoa Hase, MD3; Akihiro Toguchi, Bachelor4; Tsuneshi Osuka, PhD2 and Naoto Hosokawa, MD4. 1Department of Infectious Diseases, Kameda Medical Center, Kamogawa, Japan, 2Department of Healthcare Epidemiology, School of Public Health in the Graduate School of Medicine, Kyoto University, Kyoto City, Kyoto, Japan, 3Department of Infectious Diseases, Nariai Red Cross Hospital, Nariai, Chiba, Japan, 4Department of Laboratory Medicine, Kameda Medical Center, Kamogawa, Chiba, Japan

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

Background. Enterobacter spp. can develop resistance during prolonged therapy with third-generation cephalosporins (3GC; ceftriaxone, cefotaxime, or ceftazidime) because of derepression of AmpC β-lactamase. However, the clinical significance of this phenomenon remains undetermined. This study aims to assess the outcome of patients with 3GC-susceptible Enterobacter bacteremia (EB) who received definitive therapy with 3GC or broad-spectrum antibiotics (BSA) using propensity score analysis.

Methods. In this retrospective, cohort study conducted at two tertiary care hospitals in Japan, we determined consecutive patients with EB identified from the laboratory databases between January 2010 and December 2017. We enrolled patients with 3GC-susceptible EB treated with 3GC or BSA (defined as fourth-generation cephalosporins, carbapenems, and piperacillin/tazobactam) as definitive therapy. The primary outcome was the clinical outcome with nosocomial antimicrobial-resistant strain.

Conclusion. The clinical significance of this phenomenon remains undetermined. This study suggests that 3GC therapy was safe and effective, with decreased morbidity and mortality.

Disclosures. All authors: No reported disclosures.

1046. Clinical and Microbiological Characteristics of Patients With Septicemia Caused by IMP-1-Producing Enterobacteriaceae in a Tertiary Hospital in Japan

Nobuki Morii, MD1; Narito Kagawa, Mr2; Kotoaki Aoki, Mr1; Yoshikazu Ichii, PhD3; Kazushiro Tateda, PhD3 and Yasuko Aoki, MD4. 1Department of General Internal Medicine, National Hospital Organization Tokyo Medical Center, Tokyo, Japan, 2Department of Microbiology and Infectious Diseases, Toho University School of Medicine, Tokyo, Japan, 3Department of Clinical Laboratory, National Hospital Organization Tokyo Medical Center, Tokyo, Japan, 4General Internal Medicine, National Hospital Organization Tokyo Medical Center, Tokyo, Japan

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

Background. Carbenapenem-producing Enterobacteriaceae (CPE) infection has become a great threat to public health worldwide. Although KPC and OXA-48 infections have mostly described, IMP-1-producing Enterobacteriaceae (IMPI-E) are not well studied. We investigated the clinical and microbiological characteristics of septicemia due to the IMPI-E.

Methods. This observational study of inpatients who developed IMP-1E septicemia was conducted in a Japanese tertiary hospital from April 2013 to March 2017. IMP-1E was defined as a decreased susceptibility to meropenem (minimum inhibitory concentration, ≥2 mg/L), as well as a positive sodium mercaptoacetate acid test, and polymyxin B-bridged chain reaction for blaIMP-1 genes. Clinical data were collected from medical charts. Antimicrobial susceptibility was determined by the MicroScan Walkway. We performed total genomic analysis, plasmid analysis, and multilocus sequence typing (MLST) using whole genome sequencing data.

Results. In total, six patients were identified (median age: 55 years). All had severe underlying disease on admission, and five were admitted to the intensive care unit. The sources of IMP-1E septicemia were as follows: two catheter-related BSI, one pyelonephritis, one cholangitis, one bacterial peritonitis, and one unknown focus. Four isolates were IMPI-E strain and two were Klebsiella pneumoniae. All patients had a previous history of antibiotic treatment and long-term hospitalization. All patients were treated with either levofloxacin (LVFX) only or LVFX and amoxicillin/clavulanic acid (AG). Follow-up blood culture was negative for all patients. All cause 30-day mortality rate was 50%. Although no isolates were resistant to LVFX and AG, they harbored nac(6)7-loc, sul1, and tet(B) genes. Two isolates harbored the gene. There was a high probability that was harbored by IncHI2 plasmid. MLST sequence type of E. cloacae isolates comprised ST78, and one ST997; K. pneumonia isolates comprised ST134, and ST252.