with VRE BSI. There were no significant differences in duration of bacteremia, length of stay and 30-day mortality between VRE vs. VSE BSI.

Conclusion. Enterococcal infections among AML patients are significantly more likely to be caused by Vancomycin-resistant E. faecium. The risk is increased by VRE colonization and Vancomycin exposure. The absence of statistical difference in 7 of 30-day mortality between VRE and VSE enterococcal BSI in our AML patients could indicate that in a homogeneous group of patients, host and treatment-related factors may influence mortality more than species or susceptibility of the isolates. Our finding confirms VRE colonization as risk factor of VRE BSI for AML patients. This finding is important for future patient education and development of preventive and treatment protocols.

Disclosures. All authors: No reported disclosures.

79.4 Retroactive Study of Linezolid vs. Daptomycin for the Treatment of Vancomycin–resistant Enterococcal Bloodstream Infection

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Background. Due to acquired resistance with Enterococcus, antibiotic therapy for vancomycin-resistant enterococcal (VRE) bloodstream infections (BSI) is limited. Current recommendations for the treatment of VRE BSI include either linezolid or daptomycin. The objective of this study was to compare clinical outcomes of VRE BSI in patients treated with linezolid or daptomycin.

Methods. This was a retrospective cohort study of inpatients from January 2010 to August 2016, conducted at a large academic medical center. Charts for review were selected based on data from the microbiology laboratory. Adult patients (≥ 18 years old) with VRE BSI treated with linezolid or daptomycin for at least 48 hours were included. Patients treated with linezolid and daptomycin combination therapy or any other Enterobacteriaceae were excluded. The primary outcome measure was 14-day in-hospital mortality. Secondary outcomes included time to blood culture clearance, microbiologic failure, antibiotic failure, and BSIs relapse. A multivariable logistic regression model was performed to adjust for potential confounders.

There were a total of 93 patients, 62 treated with linezolid and 31 with daptomycin. Median daptomycin dose was 6.14 mg/kg (IQR, 5.98-6.71). Outcome of 14-day in-hospital mortality was not significantly different for patients treated with linezolid and daptomycin (17.7% vs. 29%, P = 0.21, respectively). Median time to blood culture clearance was not significantly different for linezolid vs. daptomycin therapy (3.0 days vs. 3.7 days, P = 0.78, respectively). All other secondary outcomes were not significantly different between treatment groups. Multivariable logistic regression analysis indicated 14-day in-hospital mortality was independently associated with Pitt bacteremia score (adjusted OR 1.48, 95% CI: 1.12-1.97) but showed no significant association with daptomycin treatment (adjusted OR 1.54, 95% CI: 0.46-5.14).

Conclusion. There were no significant differences in clinical outcomes for patients treated with linezolid or daptomycin for the treatment of VRE BSI. Additional prospective studies with larger sample sizes are needed to further validate these conclusions.

Disclosures. All authors: No reported disclosures.

79.5 Mortality Impact of CLSI Carbapenem Breakpoint Changes in Enterobacteriaceae Bloodstream Infections: A Patient-level Analysis of Published Data

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Background. In 2010, the Clinical and Laboratory Standards Institute (CLSI) lowered susceptibility breakpoints for carbapenems, although few studies have evaluated the clinical impact of these changes. The objective of this study was to determine whether a clinical breakpoint exists for carbapenems in patients with Gram-negative bloodstream infections (GNBSIs).

Methods. Patient-level data from 4 publications (Rhodes JN 2016, Biehle LR 2015, Patel TS 2015, Esterly JS 2012) reporting outcomes for GNBSIs treated with carbapenems for 24-48 hours were compiled. Patients with an MIC ≥16 mg/L to both imipenem (IMI) and meropenem (MER) were excluded. Classification and Regression Tree (CART) analyses were used to determine optimal splits for carbapenem MIC with respect to 30-day all-cause mortality. Univariate and multivariate regression analyses were conducted using Stata 14.

Results. A total of 194 patients were extracted. Klebsiella pneumoniae was the most common pathogen (70.1%) followed by Escherichia coli (15.0%). Primary bacteremia/unknown and urinary tract were the most common sources of GNBSI (31.4% and 23.8%, respectively). MER MICs were available for 144 patients (74.2%) and 138 patients (71.1%), respectively. Carbapenem agent used was known for 141 patients, of which 94 received MER, 24 received etrapenem, 12 received doripenem, and 11 received IMI. CART analysis identified a significant difference in mortality between patients infected with organisms having MER MICs ≤ 1 mg/L (P < 0.01, 4.3%) vs. those with >1 mg/L (P = 0.721, 33.3%; P < 0.01) regardless of carbapenem used. This breakpoint was also identified in the subgroup of patients with available MER MICs who were treated with MER (P = 0.564, 7.8% vs. 7.19%, 36.8%; P < 0.01). In multivariable logistic regression, MER MIC > 1 mg/L was associated with increased odds of 30-day mortality after controlling for ICU admission in the any carbapenem treatment (OR 5.09, 95% CI 1.63-15.6; P < 0.01) and MER treated populations (OR 7.16, 9.87-23.7; P < 0.01).

Conclusion. This pooled patient-level analysis of GNBSIs treated with carbapenems represents the largest of its kind to date. A significant increase in mortality was identified in patients with MER non-susceptible isolates as defined by the 2010 CLSI breakpoints.

Disclosures. J. Patel, Merck: Grant Investigator, Research grant. J. Esterly, Merck Employee, Salary. E. Hirsch, Merck: Grant Investigator, Grant recipient. The Medicines Company: Speaker's Bureau, Speaker honorarium.
Methods. Patients from the Predictive Health Intelligence Environment were included, if they were hospitalized and prescribed C/T for greater than 48 hours between 1/14/15-5/11/17. Classification of infection type was based on diagnostic codes. Empiric was treatment given prior to culture results. Escalation was the addition of another GN antibiotic for at least 48 hours after initial GN therapy. Pan-β-lactam resistance (PBL-R) were isolates resistant to cephalothin, cefazidime, piperacillin/tazobactam, meropenem, and imipenem.

Results. 394 patients had 524 C/T encounters. The majority of the patients were male (65%) and Caucasian (56%) with an average age of 56 ± 17 years. Fifty percent of patients received antimicrobials within 30 days prior to the index hospitalization. Common comorbidities were chronic pulmonary disease (44%), renal disease (36%) and diabetes (34%), with an average Charlson Comorbidity Index of 3.8 ± 3. A majority 350 (89%) of patients received C/T within the first week of hospitalization. Patients receiving C/T most commonly had respiratory infections (48%), cUTI (41%) and eUTI (39%). The most common (317/394; 80%) isolated pathogen was Pseudomonas aeruginosa (PSA). The median and interquartile range of C/T duration was 9 (4-18) days. C/T was empiric for 77 patients and in 71 (18%) of patients C/T was the only GN therapy received. 110 (28%) were escalated to C/T after other GN therapy, 197 (50%) had some overlapping GN coverage and 14 (3.5%) patients received escalation after receipt of C/T. Susceptibility to C/T was demonstrated in (68/75; 92%) of PSA including (67/75; 92%) of PBL-R isolates. Fig 1.

Conclusion. C/T demonstrated high in vitro susceptibility, including against PBL-R isolates. Most patients received C/T for treatment of PSA and only a few patients required escalation of therapy after C/T.

Disclosures. All authors: No reported disclosures.