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790. Treatment of Carbapenem-Resistant Enterobacteriaceae Infections with Ceftazidime-Avibactam
Elihara Rahmati, MD; Emily Blodgett, MD1; Rosemary C. She, MD2; Jennifer Cueto Abbott, PharmD3; Robert A. Bonomo, MD4 and Brad Spellberg, MD5;
1Infectious Diseases, USC+LAC Medical Center, Los Angeles, California,
2Microbiology, USC+LAC, Los Angeles, California,
3Pharmacy, USC+LAC, Los Angeles, California,
4Department of Molecular Bioscience and Microbiology, Case Western Reserve University School of Medicine, Cleveland, Ohio

Session: 76. Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. CRE is an urgent threat to public health with a high mortality estimated at >30-50%. Until recently, polymyxin-based antibiotics were the only available options. However, a new therapeutic option has become available: ceftazidime-avibactam. We sought to describe outcomes from these infections treated with ceftazidime-avibactam.

Methods. From 9/2015 to 12/2016, we reviewed charts of 11 patients infected with CRE who received ceftazidime-avibactam at USC (Los Angeles, CA). Sixteen isolates analyzed. All isolates were resistant to meropenem (MIC ≥ 16). Carbapenemase production confirmed by detection of blaKPC. Clinical success defined as clinical improvement, lack of recurrence, and survival in 90 days. Recurrence defined as clinical signs of infection and recovery of CRE after ≥ 7 days of treatment.

Results. The median age was 49 (35-89); 73/711 female; and 27/3 (31%) solid organ transplant recipient. All CRE were KPC-3 producing strains. Clinical success measured by using RIFPLE criteria. All sequence type 258, 711 harboring blaKPC3 and 4/11 blaKPC3. Nine capillary type wzi-154 and w2 wiz-29. qSOFA score was 0 (0-2) predicting mortality of 3%. Seven had intraabdominal infections; 2 pyelonephritis, 1 skin and soft tissue infection, and 1 primary bacteremia. There were no episodes of secondary bacteraemia. The patients were treated for a median duration of 15 (3-43) days. All received other antibiotics prior to ceftazidime-avibactam. Eighty-seven percent (9/11) treated with monotherapy and 13% (2/11) in combination with colistin sodium. 27/3 (31%) were receiving CRRT or hemodialysis during treatment. No incident antibiotic-related toxicity observed using observed using RIFPLE criteria. Clinical success was 73% (8/11); 30 day survival rate 82% (9/11); 90 day survival rate 73% (8/11); and in hospital mortality 27% (3/11). Patients receiving CRRT or hemodialysis had 75% (3/4) mortality (P = 0.02). Recurrence occurred in 18% (2/11). Decreased sensitivity to ceftazidime-avibactam noted in one patient. 27/3 (31%) had CRE isolated after ≥ 7 days treatment.

Conclusion. In CRE-infected patient treated with ceftazidime-avibactam, the overall mortality rate was 27% with the highest mortality among those receiving renal replacement therapy which was comparable to a prior studies. Additional research is needed to optimize the use of ceftazidime-avibactam to treat CRE infections.

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791. Health Outcomes from Multi-Drug-resistant Salmonella Infections in High-Income Countries: A Systematic Review and Meta-Analysis
Andrea Parisi, MBBS-BSc1; John A. Crump, FIDSA2; Martyn Kirk, PhD3; Kathryn Glass, PhD4; Benjamin How, MBBS FRACP BPharm Hons1; Darren Gray, PhD1; Luis Fursuy-Kanamori, MBBS, MPhil, MPH1 and Samantha Vilkins, BSc1;
1Research School of Population Health, Australian National University, Canberra, Australia,
2Centre for International Health, University of Otago, Dunedin, New Zealand,
3Microbiological Diagnostic Unit, Parkville VIC, Australia,
4Department of Public Health, Qatar University, Doha, Qatar

Session: 76. Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Salmonella is a leading cause of foodborne enterocolitis worldwide. Nontyphoidal Salmonella (NTS) infections that are Multi-Drug-resistant (MDR) (non-susceptible to ≥1 agent in ≥3 antimicrobial categories) may result in more severe infection, hospitalization, morbidity and mortality of MDR and susceptible NTS infections.

Methods. We conducted a systematic review and meta-analysis to examine impacts of MDR NTS on health outcomes. NTS serotypes differed among the reported studies but serotypes were included: Salmonella enterica serotype Typhimurium, Enteridis, Newport, and Heidelberg were the most often reported MDR pathogens. Salmonella infections that were MDR were associated with excess bloodstream infections (OR 1.73; 95% CI 1.32–2.27), excess hospitalizations (OR 2.51; 95% CI 1.38–4.58), and higher mortality (OR 3.54; 95% CI 1.01–11.40).

Conclusion. The results of this meta-analysis suggest that MDR NTS infections have more serious health outcomes compared with susceptible isolates. With the emergence of MDR Salmonella strains in high-income countries, it is crucial to restrict the use of antimicrobials in animals and humans, and intervene to prevent foodborne infections.

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792. Comparison of Rates of Acute Kidney Injury with Vancomycin/Piperacillin-Tazobactam vs. Vancomycin/Meropenem Combination Therapy
Sonia Pernia, PharmD1; Jamie Hopkins, PharmD2 and David Kuhl, PharmD2;
1Hospital Pharmacy, University College of Pharmacy, Jackson, TN,
2Pharmacy Practice, Union University College of Pharmacy, Jackson, TN

Session: 76. Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Vancomycin is historically correlated with renal toxicity, especially in patients required with other nephrotoxic agents. Recent reports have identified nephrotoxicity associated with vancomycin in conjunction with β-lactam antibiotic therapy, reporting increased rates of acute kidney injury (AKI) with vancomycin/piperacillin-tazobactam (VPT) therapy as compared with vancomycin monotherapy. Similarly, increased rates of AKI have been reported with VPT as compared with vancomycin/ceftazidime. Little data exists comparing VPT to the combination of vancomycin/meropenem (VM). The purpose of this study was to determine the incidence of nephrotoxicity between these two antibiotic combinations.

Methods. A single-center cohort study was performed at a large tertiary care community hospital utilizing retrospective review of electronic medical records. Adult in-patients treated from June to October of 2015 were included. Evaluable patients received at least 48 hours of either VPT or VM combination therapy and were followed for 10 days of combination therapy. Data collection included patient demographics, AKI risk factors, days of antibiotic therapy, and serum creatinine. The primary endpoint of incidence of AKI as defined by the Kidney Disease Improving Global Outcomes (KDIGO) criteria. Secondary endpoints included time to AKI and incidence of new dialysis therapy.

Results. Of 564 patients screened, a total of 202 patients met inclusion criteria, with 101 patients in each combination therapy group. Baseline serum creatinine and estimated creatinine clearance were not different between groups. The incidence of AKI was higher in the VPT group as compared with the VM group (17.82% vs. 4.95%, respectively; P < 0.004). Time to AKI onset was longer in the VPT group compared with the VM group (3.2 days vs. 1.4 days, P = 0.045). Patients in the VM group had a higher incidence of ICU admissions (56.4% vs. 40.6%, P = 0.024) and mean arterial pressure (MAP) less than 65mmHg (60.4% vs. 44.6%, P = 0.029). No patients in either group required new dialysis therapy.

Conclusion. Despite a greater incidence of AKI risk factors in the VM group, VPT therapy was associated with an increased risk of AKI as compared with VM therapy. Prospective studies are needed to further evaluate this finding.

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793. Risk Factors and Outcomes of Vancomycin-Resistant vs. Vancomycin-Sensitive Enterococcal Blood Stream Infections in Patients with Acute Myeloid Leukemia
Anteneh Addis, MD, PhD1; Noah Hackney, MS1; Somya Nanjappa, MD2;
1Department of Hematology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida,
2Infectious Diseases, University of South Florida, Tampa, Florida

Session: 76. Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Enterococci are commensal of the gastrointestinal tract known to cause blood stream infections (BSIs). Studies have shown increased mortality from enterococcal BSI in neutropenic patients, indicating Vancomycin-resistant Enterococcal (VRE) infections causing increased mortality. Whether these differences in mortality apply to AML patients is unknown. The objectives of this study are to compare the risk factors and outcomes between VRE & VSE BSIs in AML patients.

Methods. We conducted a single center, retrospective cohort study of patients with enterococcal BSIs at H. Lee Moffitt Cancer Center from July 2011 to October 2015. Records were searched to identify AML patients with enterococcal BSI. Enterococcal species, neutropenia duration, Vancomycin exposure, VRE colonization, and 30 day mortality, age, sex, length of stay, stem cell transplant & central line status were compared. We conducted statistical tests and Kaplan- Meier plot to analyze mortality trends. AML patients were a total of 144 BSIs. From two (54.5%) were caused by V. faecalis and E. faecium accounted for 28.5% and 62.3% of BSIs respectively. The E. faecalis isolates were more likely to be VSE (83% vs. 8.3%, P < 0.001) and E. faecium isolates to be VRE (71% vs. 29%, P < 0.001). Duration of neutropenia was significantly longer (27.3 vs. 6.3 days, P < 0.005) among AML patients with VRE BSI. Recent Vancomycin use and VRE colonization were significantly associated