706. Ceftazidime-Avibactam (CZA) and Meropenem (MER) Are Synergistic and Bactericidal Against Genetically Diverse KPC Producing Klebsiella pneumoniae (Kp)
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Session: 67. Resistance Mechanisms: Gram-Negative
Thursday, October 4, 2018: 12:30 PM
Background. Ceftazidime-avibactam (CZA) and meropenem (MER) are synergistic and bactericidal against several KPC producers of Klebsiella pneumoniae (Kp).
Methods. We tested isolates for responses to CZA alone (1 × MIC of avibactam fixed at 4 µg/mL) and in combination with colistin (COL; 2 µg/mL), fosfomycin (FOS; 100 µg/mL + 25 µg/mL), gentamicin (GEN; 2 µg/mL), MER (8 µg/mL), and ticarcillin (TGC; 2 µg/mL) by time-kill using a starting inoculum of 1 × 10^6 CFU/mL. Log-kills were calculated as log CFU/mL decrease from time 0; 24 hours was the primary endpoint.
Results. Thirty KPC-Kp isolates were studied (22 KPC-2 and 8 KPC-3); all isolates were CZA-susceptible (MIC range: 0.125–4 µg/mL). Fifty-three percent harbored ompK36 mutations (eight each with IS254 and IS255), >2 isolates. Fifteen percent (19/124) of KPC-producing CRE were isolated from outpatients. VIM-producing CRE were identified in two acute-care facilities located in two urban areas; one was from an outpatient. Patients with VIM were younger than those with KPC (43 vs. 60 years, P < 0.001).
Conclusion. KPC is the predominant carbapenemase in Kentucky and is more widely disseminated than VIM, which has been limited to two facilities. CRE reporting and mechanism testing have yielded a greater understanding of regional CRE epidemiology and has the potential to facilitate response efforts to slow further spread.

705. Four Superbugs Isolated From a Single Patient in the United States: E. coli (EC) and K. pneumoniae (KP) Harboring NDM-5, P. aeruginosa (PA) Harboring NDM-1 and Candidate Antimicrobials
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Session: 67. Resistance Mechanisms: Gram-Negative
Thursday, October 4, 2018: 12:30 PM
Background. The spread of carbapenem resistance in Enterobacteriaceae (CRE) and PA is an urgent public health concern. Candida auris (CA) is also an emerging threat, with the epicenter of US cases on the East Coast. Transcontinental spread of CRE has been reported. Here, we tested various agents in combination with CA for synergistic and bactericidal activity.
Methods. We tested isolates for responses to CA alone (1 and 4× MIC, avibactam fixed at 4 µg/mL) and in combination with colistin (COL; 2 µg/mL), fosfomycin (FOS; 100 µg/mL + 25 µg/mL), gentamicin (GEN; 2 µg/mL), MER (8 µg/mL), and ticarcillin (TGC; 2 µg/mL) by time-kill using a starting inoculum of 1 × 10^6 CFU/mL. Log-kills were calculated as log CFU/mL decrease from time 0; 24 hours was the primary endpoint.
Results. Thirty KPC-Kp isolates were studied (22 KPC-2 and 8 KPC-3); all isolates were CZA-susceptible (MIC range: 0.125–4 µg/mL). Fifty-three percent harbored ompK36 mutations (eight each with IS254 and IS255), >2 isolates. Fifteen percent (19/124) of KPC-producing CRE were isolated from outpatients. VIM-producing CRE were identified in two acute-care facilities located in two urban areas; one was from an outpatient. Patients with VIM were younger than those with KPC (43 vs. 60 years, P < 0.001).
Conclusion. KPC is the predominant carbapenemase in Kentucky and is more widely disseminated than VIM, which has been limited to two facilities. CRE reporting and mechanism testing have yielded a greater understanding of regional CRE epidemiology and has the potential to facilitate response efforts to slow further spread.

Disclosures. All authors: No reported disclosures.