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1079. Development of Tebipenem MIC Antimicrobial Susceptibility Test for Gram-negative Bacteria on MicroScan Dried Gram-negative MIC Panels

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Session: P-61. Novel Agents

Background. Development of a tebipenem antimicrobial susceptibility test was completed for the MicroScan Dried Gram-negative MIC (MSDGN) Panel when compared to CLSI broth microdilution reference panels.

Methods. Development was conducted by comparing MICs obtained using the MSDGN panel to MICs using a CLSI broth microdilution reference panel. A total of 669 Enterobacterales isolates were tested at 16, 18, and 20 hour incubation times using the tebipenem and Prompt® methods of inoculation. MSDGN panels were incubated at 35 ± 2°C and read on the WalkAway System, the autoSCAN-4 instrument, and read visually. Frozen reference panels, prepared according to CLSI methodology, were inoculated using the turbidity inoculation method. All frozen reference panels were incubated at 35 ± 2°C and read visually. Dilution sequence evaluation is 0.03-32 µg/mL.

Results. When compared to frozen reference panel results, essential agreement for all isolates tested during development are as follows:

| Read Method | T | P |
|-------------|---|---|
| Visual      | 97.6 | 94.2 |
| (653/669)   | (630/669) |
| WalkAway    | 97  | 94.3 |
| (650/669)   | (631/669) |
| autoSCAN-4  | 94.0 | 93.7 |
| (629/669)   | (627/669) |

Conclusion. The development data showed that tebipenem MIC results for Enterobacterales obtained with the MSDGN panel correlate well with MICs obtained using frozen reference panels. Essential agreement is >90% for all inoculation and read methods.

For Investigational Use Only. The performance characteristics of this product have not been established.

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Disclosures. Jose Enrique Fernandez, n/a; Beckman Coulter (Employee) Vasna Carr, n/a; Beckman Coulter (Employee) Renae Miller, n/a; Beckman Coulter (Employee)

1080. Relebactam Increases Imipenem Activity Against Imipenem-Nonsusceptible and -Susceptible Pseudomonas aeruginosa and Enterobacterales: Assessment of Isolates from RESTORE-IMI 2

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Session: P-61. Novel Agents

Background. Relebactam (REL) inhibits class A and β-lactamases (BLs) and is approved in the US in the combination imipenem/cilastatin/REL (IMI/REL) for hospital acquired bacterial pneumonia (HABP) and ventilator associated bacterial pneumonia (VABP), and also in patients with limited treatment options for complicated urinary tract infections and complicated intraabdominal infections. The objective of this study was to evaluate the potentiation of imipenem (IMI) by REL in baseline respiratory isolates from the recently completed Phase 3 RESTORE-IMI 2 study that demonstrated efficacy and safety of IMI/REL in the treatment of patients with HABP/VABP.

Methods. Baseline lower respiratory tract (LRT) isolates were evaluated for IMI MICs in the presence and absence of REL using broth microdilution and CLSI interpretation criteria. All Pseudomonas aeruginosa and Enterobacterales for which IMI/REL is either indicated or the MIC<sub>50</sub> is less than or equal to the susceptibility breakpoint were evaluated.

Results. Summary statistics and the MIC distribution for P. aeruginosa are shown in the figure. For P. aeruginosa, REL reduces the IMI mode MIC of IMI-nonsusceptible (IMI-NS) (MIC >2) isolates ≥8-fold (from 16 to 2 to ≥0.5 µg/mL) and that of IMI-susceptible (IMI-S) (MIC ≤2) isolates ≥2-fold (from 2 to ≤0.5 µg/mL). REL enhanced the activity of IMI among IMI-5 isolates (MIC ≤1), most notably observed in Enterobacterales species that produce chromosomal AmpC, increasing the proportion with MIC ≤0.5 µg/mL from 76% to 98%.

MIC Distribution and Summary Statistics of RESTORE IMI-2 Isolates