Avibactam Reverts the Ceftazidime MIC<sub>90</sub> of a Recent Set of European Clinical Isolates of Gram-negative Bacteria Back to the Epidemiological Cut-off-Value

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Abstract

Background: the combination of ceftazidime and avibactam (CAZ-AVI) is a β-lactamase inhibitor and an extended-spectrum β-lactamase (ESBL) and AmpC-producing strains. We examined the effect of Avi on the CAZ MIC distributions of clinical isolates collected in a total of 26 medical centers in Belgium, France, Germany, Ireland, Italy, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. The combination of avibactam with ceftazidime is currently undergoing clinical development for treatment of patients infected with extended-spectrum β-lactamase (ESBL) and carbapenem-resistant Enterobacteriaceae with CTX-M extended-spectrum beta-lactamases and carbapenemases. Abstr. 1265. 20th ECCMID 2010, Vienna, Austria.

Conclusions: - The MIC<sub>90</sub> for ceftazidime and ceftazidime-avibactam for E. coli and P. aeruginosa were 32 and 0.5 μg/mL, respectively (Table 1). - The MIC<sub>90</sub> for ceftazidime-avibactam (0.5 μg/mL) was consistent with the ECOFF for ceftazidime against strains with ≤0.5 μg/mL (Figure 1d). - The MIC<sub>90</sub> for ceftazidime against strains with ≤0.5 μg/mL (Figure 1d). - The MIC<sub>90</sub> for ceftazidime against strains with ≤0.5 μg/mL (Figure 1d). - The MIC<sub>90</sub> for ceftazidime against strains with ≤0.5 μg/mL (Figure 1d).

Materials and Methods

Consensually collected, non-representative isolates from patients with clinically significant infections were collected from January through December in 2009 from a total of 26 medical centers in Belgium, France, Germany, Ireland, Italy, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. The combination of avibactam with ceftazidime is currently undergoing clinical development for treatment of patients infected with extended-spectrum β-lactamase (ESBL) and carbapenem-resistant Enterobacteriaceae with CTX-M extended-spectrum beta-lactamases and carbapenemases. Abstr. 1265. 20th ECCMID 2010, Vienna, Austria.

Sustainability testing was performed by both broth microdilution and Etest methods. The Etests for susceptibility testing were performed according to CLSI (2010) criteria. The MIC<sub>90</sub> values were compared to the CLSI and EUCAST wild-type susceptibilities. The combination of avibactam with ceftazidime is currently undergoing clinical development for treatment of patients infected with extended-spectrum β-lactamase (ESBL) and carbapenem-resistant Enterobacteriaceae with CTX-M extended-spectrum beta-lactamases and carbapenemases. Abstr. 1265. 20th ECCMID 2010, Vienna, Austria.

The MIC<sub>90</sub> for ceftazidime-avibactam (0.5 μg/mL) was consistent with the ECOFF for ceftazidime against strains with ≤0.5 μg/mL (Figure 1d).

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