Cefiderocol In Vitro Activity against Molecularly Characterized Acinetobacter baumannii-calcoaceticus complex and Pseudomonas aeruginosa Clinical Isolates Causing Infection in Europe and Adjacent Regions (2020)

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Objective

Cefiderocol and comparator activities were analysed against molecularly characterized *A. baumannii-calcoaceticus* complex and *P. aeruginosa* as a part of the SENTRY Antimicrobial Surveillance Program for Europe and surrounding regions.

Methods

A total of 340 *A. baumannii* and 1,212 *P. aeruginosa* were consecutively collected from 35 medical centres in Europe, Israel, and Turkey during 2020.

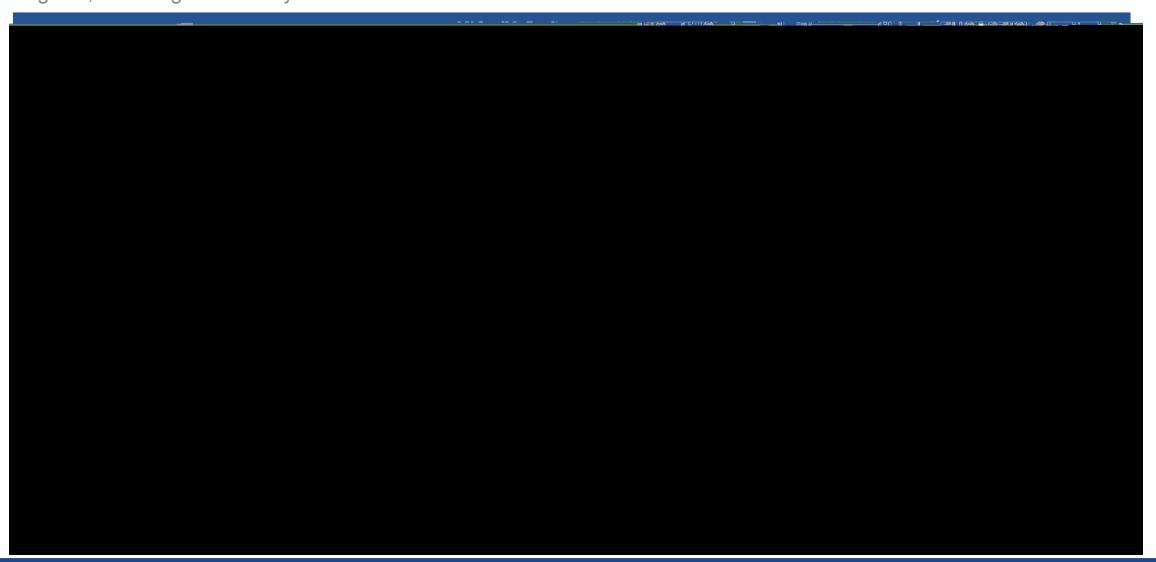
Isolates were tested for susceptibility by broth microdilution method.

- Cefiderocol was tested with iron-depleted media.
- MIC interpretation used EUCAST and CLSI breakpoints.

A. baumannii and P. aeruginosa mg/L or ceftazidime and/or cefepime MIC 16 mg/L were subjected to next-generation genome sequencing for screening of acquired extended-lactamase (ESBL) and carbapenemase genes.

Results

Table Activity of cefiderocol and main comparators against *P. aeruginosa* and *A. baumannii* from Europe and adjacent regions, including molecularly characterized clinical isolates



Results

A total of 35.0% of *P. aeruginosa* met the MIC screening criteria and carbapenemase genes were detected in 7.8% (33/424) of these isolates.

Cefiderocol (98.3-100% susceptible) had similar MIC_{50} (0.12 mg/L) and MIC_{90} (0.25-0.5 mg/L) values against both susceptible and resistant *P. aeruginosa* populations.

Other agents had lower activity (35.4-89.8% susceptible) against the resistant population of *P. aeruginosa*.

Cefiderocol (MIC_{50/90}, 0.12/1 mg/L; 100% susceptible) was active against a small subset of *P. aeruginosa* carrying carbapenemase genes. Other agents had limited activity.

A total of 64.7% (220/340) *A. baumannii* met the MIC screening criteria and acquired *bla*_{OXA} carbapenemases were detected in 98.2% (216/220) of these isolates.

Cefiderocol had the lowest MIC₅₀ and MIC₉₀ values

Contact