Activity of the Novel Cephalosporin CXA-101 Tested in Combination with Tazobactam against Cephalosporin-resistant Enterobacteriaceae, P. aeruginosa and B. fragilis

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Conclusions

Material and Methods

Introduction

Results

Antimicrobial agents

Organism (no. tested)/

Acquired resistance to at least 3 of the following antimicrobial classes: cephalosporins, carbapenems, aminoglycosides and fluoroquinolones.

Table 3. Antimicrobial activity of CXA-101, CXA-101/tazobactam and various comparator agents at a fixed concentration of 4 µg/ml (CXA/TAZ4) and various comparator agents.

Ceftazidime 32 >64 8->64 - -
Ceftriaxone 32 >32 4->32 3.7 44.4
Cefepime 1 16 - - - 12(24.5)

• Against carbapenem-resistant Enterobacteriaceae and E. coli producing PM b: CXA demonstrated higher anti-PM activity than currently available comparators (MIC50, 16 µg/ml; MIC90, 32 µg/ml) and four- to eight-fold more active than meropenem against wild type MDR strains (MIC50, 0.25 µg/ml and MIC90, 1 µg/ml) of B. fragilis (Table 2). The in vitro activity of CXA was less for KPC-producing K. pneumoniae (MIC50, 16 µg/ml; MIC90, 64 µg/ml) compared to K. pneumoniae (MIC50, 4 µg/ml; MIC90, 16 µg/ml) (Table 2). Carbapenem-non-susceptible B. fragilis showed some activity (MIC50, 8 µg/ml) against strains from the USA but was less active than doripenem (MIC50, 0.25 µg/ml; MIC90, 1 µg/ml) against wild type strains from Latin America (data not shown). Interpretable MICs, 0.12 ≤ MIC ≤ 2 µg/ml, were observed for all MDR strains (41)

Table 4. MIC distributions of CXA-101 (3.125 µg/ml) and CXA-101/tazobactam (fixed 4 µg/ml) tested against ceftazidime-resistant Enterobacteriaceae, ESBL-producing P. aeruginosa and B. fragilis strains.

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Ceftriaxone 32 >32 4->32 3.7 44.4
Cefepime 1 16 - - - 12(24.5)

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Selected References


