Amended Abstract

Background: Diabetes mellitus (DM) is associated with a dual mechanism of action: selective Gram-negative (GN) killing and increased production of virulence factors. GN isolates in DM patients may have higher chances of being resistant in vitro to aztreonam (AZT) combined with 200 µg/ml of MEM (MEM-AZT) against untreated isolates of Klebsiella pneumoniae, Enterobacter aerogenes, and Citrobacter freundii, compared to isolates with vancomycin (VAN) with various resistance (R) phenotypes.

Methods: Isolates were collected from 10 medical centers from 30 countries worldwide (in the US, 26 centers from 23 states; the rest from 3 countries). All XDR isolates were performed in a laboratory by a laboratory assistant and 200 µg/ml of AZT and comparator agents.

Results: FDP 200-1/100 (1:1) was very active against all 10 isolates. The highest FDP 100-1/100 (1:10) value and 4/4 and 6/6 of isolates would be considered susceptible (S) when using the CLSI and EUCAST breakpoints, respectively. The highest FDP 100-1/100 (1:10) value of 2/2 and 2/2 of isolates would be considered susceptible (S) when using the FDP 200-1/100 (1:10) breakpoints, respectively. The highest FDP 100-1/100 was active against 8 of 8 (100.0%), 7/8 (87.5%), and 1/8 (12.5%) agents, respectively. The highest FDP 200-1/100 was active against 8 of 8 (100.0%), 7/8 (87.5%), and 1/8 (12.5%) agents, respectively. The highest FDP 200-1/100 was active against 8 of 8 (100.0%), 7/8 (87.5%), and 1/8 (12.5%) agents, respectively. The highest FDP 200-1/100 was active against 8 of 8 (100.0%), 7/8 (87.5%), and 1/8 (12.5%) agents, respectively. The highest FDP 200-1/100 was active against 8 of 8 (100.0%), 7/8 (87.5%), and 1/8 (12.5%) agents, respectively.

Conclusions: The authors concluded that the study investigated the effects of using FDP 200-1/100 against XDR isolates and that the results supported the use of this combination.

Introduction

Patients with diabetes mellitus (DM) are a growing patient population who are at increased risk of infections caused by multidrug-resistant (MDR) and XDR Enterobacteriaceae. Although carbapenem usage has increased since the 1990s, MDR and XDR Enterobacteriaceae is still a major challenge for the clinical microbiology laboratory. The presence of multiple resistance genes in Enterobacteriaceae is often associated with the presence of virulence factors.

Methods

Susceptibility testing: MIC values were determined using Clinical and Laboratory Standards Institute (CLSI) (9) broth microdilution methodologies as described in CLSI document M7-A10 (2015). The combination of carbapenems (imipenem, meropenem, and ertapenem) and colistin were performed. Isolates were obtained from patients in a hospital in Boston, MA.

Organic collection: All isolates were collected in 2015 as part of global and local clinical and research efforts. The study was approved by institutional review boards in Europe, EU regulatory centers, United States FDA, and the National Institute of Allergy and Infectious Diseases.


References