Revised Abstract

Relebactam (formerly MK-7655) is a beta-lactamase inhibitor for use in combination with imipenem to expand the spectrum of activity against Enterobacteriaceae and Pseudomonas aeruginosa. In this study we evaluated the in vitro activity of IMI/REL against a collection of gram-negative isolates from respiratory tract infections (RTIs) from the 2015 SMART surveillance program.

Materials & Methods

27 hospitals in the US (20) and Canada (7) each collected up to 100 consecutive aero/ facultative gram-negative pathogens from RTI. MICs were determined for 483 P aeruginosa and 1,141 non-P. aeruginosa Enterobacteriaceae (NPE) using CLSI broth microdilution at a central laboratory [1, 2]. Proteases were excluded due to intrinsic nonsusceptibility to IMI/REL, was tested at a fixed concentration of 4 μg/mL in combination with IMI. The percent susceptible (S) was assessed using CLSI breakpoints [2]. MI S breakpoints of 1 μg/mL (NPE) and 2 μg/mL (P. aeruginosa) were applied to IMI/REL.

Results

Relebactam exhibited strong potential for restoring the in vitro activity of imipenem against many RTI pathogens otherwise nonsusceptible to carbapenems. Further development of this compound could provide a valuable therapeutic option for treating infections caused by resistant gram-negative bacilli from respiratory infections.

Conclusions

Relebactam exhibited strong potential for restoring the in vitro activity of imipenem against many RTI pathogens otherwise nonsusceptible to carbapenems. Further development of this compound could provide a valuable therapeutic option for treating infections caused by resistant gram-negative bacilli from respiratory infections.

References and Acknowledgments: