Telavancin Activity Tested Against Gram-Positive Clinical Isolates From European Hospitals (2011–2013)

Using A Revised Brth Microdilution Testing Method: Redefining the Baseline Activity for Telavancin

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ABSTRACT

Introduction: This study documents telavancin MIC results from isolates from other healthcare facilities, such as blood and urine. Important observations include: 1) telavancin is active against vancomycin-susceptible S. aureus (VSSA) with a MIC90 of 0.015 mg/L compared to that previously reported, 2) telavancin is more active than daptomycin (MIC50/90, 0.25/0.5 mg/L) and 16- to 32-fold more active than linezolid (MIC50/90, 0.25/0.5 mg/L), and 3) telavancin is bactericidal in ≤1 mg/L for susceptible S. aureus and S. pyogenes. These baseline results may provide a lower limit for MICs (90th percentile) to be used to guide clinical decision making.

Materials and Methods: Results: Results: The baseline MIC50 and MIC90 values for telavancin were ≤0.06/0.25 mg/L for susceptible S. aureus, ≤0.25 mg/L for VSSA, and ≤0.015 mg/L for susceptible S. pyogenes. These baseline results are lower than those previously reported with BMD (100th percentile) values.

Conclusions: Telavancin is more active against vancomycin-susceptible S. aureus (VSSA) with a MIC90 of 0.015 mg/L compared to that previously reported. Telavancin is more active than daptomycin and 16- to 32-fold more active than linezolid. These baseline results may provide a lower limit for MICs (90th percentile) to be used to guide clinical decision making.

INTRODUCTION

Introduction: Telavancin is an approved agent for the treatment of patients with complicated skin and skin structure infections due to susceptible Gram-positive organisms, and hospital-acquired bacterial pneumonia (HAP), ventilator-associated bacterial pneumonia (VABP), and other hospital-acquired bacterial pneumonia (HABP) caused by methicillin-resistant S. aureus (MRSA) and susceptible S. pneumoniae. Its mechanism of action includes a broad spectrum of activity against vancomycin-resistant enterococci (VRE), and also against enterococci that have reduced susceptibility to vancomycin (VREF) and linezolid (VREFL). It is bactericidal in ≤1 mg/L for susceptible S. pneumoniae and S. pyogenes. These baseline results may provide a lower limit for MICs (90th percentile) to be used to guide clinical decision making.

RESULTS

Results: The MIC results were generated using an automated broth microdilution system with the Clinical and Laboratory Standards Institute (CLSI) BMD method (approved 2010). In this study, telavancin was tested against 1,140 Gram-positive isolates from 36 European centers in 17 European countries. The isolates were collected during a 3-year period (2011–2013). The baseline MIC50 and MIC90 values for telavancin were ≤0.06/0.25 mg/L for susceptible S. aureus, ≤0.25 mg/L for VSSA, and ≤0.015 mg/L for susceptible S. pyogenes. These baseline results are lower than those previously reported with BMD (100th percentile) values. The baseline MIC50 and MIC90 values for telavancin were lower than those previously reported with the EUCAST (2013) and CLSI (2014) breakpoints.

CONCLUSIONS

Conclusions: Telavancin is more active against vancomycin-susceptible S. aureus (VSSA) with a MIC90 of 0.015 mg/L compared to that previously reported. Telavancin is more active than daptomycin and 16- to 32-fold more active than linezolid. These baseline results may provide a lower limit for MICs (90th percentile) to be used to guide clinical decision making.

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