Oritavancin Activity against S. aureus Causing Invasive Infections in USA and European Hospitals: A Five-year International Surveillance Program

Background: Oritavancin has been developed for the treatment of serious Gram-positive infections. This study assessed the in vitro activity of oritavancin tested against S. aureus.

Methods: Between 2008 and 2012, 9,115 S. aureus clinical isolates were collected from hospitalized patients in 54 medical centers in the USA and Europe, respectively. Isolates were recovered from blood specimens over a five-year period (2008-2012) and submitted to JMI Laboratories, North Liberty, USA and Europe, respectively. Isolates were collected from blood cultures and stored at -70°C until testing. Identification was performed by standard algorithms and supported by MALDI-TOF-MS (Bruker BioSystems, Hazelwood, Missouri, USA), and supported by MALDI-TOF-MS (Bruker, Bremen, Germany). Antimicrobial susceptibility test methods: Isolates were tested for susceptibility to oritavancin and comparator antibiotics by CLSI methods (M07-A9. Methods for dilution antimicrobial susceptibility test for bacteria that grow aerobically). The Clinical and Laboratory Standards Institute (CLSI) standards were used to interpret susceptibility test results. Organsism/subseta

Results: Oritavancin exhibited potent in vitro activity against S. aureus (MIC50/90, 0.06/0.12 µg/mL), daptomycin (MIC50/90, 0.25/0.5 µg/mL), and tetracycline (MIC50/90, 0.25/2 µg/mL) when tested against clinically relevant subsets of S. aureus. Oritavancin showed modal MIC values of 0.02/0.05 µg/mL, when tested against susceptible and selected subsets of MRSA and MDR S. aureus (Table 1).

Conclusions: Oritavancin exhibited potent in vitro activity for the treatment of S. aureus causing bloodstream infections. Oritavancin is likely to be bactericidal against S. aureus and exhibits a rapid time-kill effect against S. aureus. Oritavancin is a semisynthetic bactericidal lipoglycopeptide in final clinical development for the treatment of patients with life-threatening infections such as those caused by S. aureus.

Acknowledgement

References


