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**Amended Abstract**

**Background**

Bone and joint infections (BJIs) comprise a series of disorders that are often associated with devastating complications and mortality. Daptomycin, linezolid, and vancomycin were also considered for empiric treatment, because of the increasing prevalence of multidrug-resistant bacterial pathogens, including MRSA, vancomycin-resistant enterococci, and coagulase-negative staphylococci. Researchers determined the susceptibility of bacterial isolates associated with BJI to oritavancin and compared its activity against these pathogens with the activity of other classes of antimicrobials.

**Methods**

This study included 321 organisms recovered from 312 unique clinical specimens (310 BJI) obtained from 290 patients in 17 countries from the 2012–2016 SENTRY Antimicrobial Surveillance Program (AP). BJI isolates were identified by standard algorithms. Antimicrobial susceptibility testing was performed by broth microdilution with regulatory breakpoints using CLSI methodology.

**Results**

**Introduction**

Otitavancin (NSD4325) is an investigational oxazolidinone antimicrobial agent with a novel mechanism of action (MOA) that targets bacterial ribosomes. This study evaluated the susceptibility of bacterial isolates associated with BJI, the most common cause of Gram-positive infections associated with mortality, to oritavancin and compared its activity against these pathogens with the activity of other classes of antimicrobials.

**Materials and Methods**

**Bacterial isolates**

- A total of 321 isolates (109 coagulase-negative staphylococci [CoNS], 104 *Staphylococcus aureus*, 98 enterococci, and 18 *S. mitis* strains) were tested using the SENTRY Antimicrobial Surveillance Program (AP) database. The isolates were collected from 312 unique clinical specimens obtained from 290 patients in 17 countries from the 2012–2016 SENTRY AP.

- Isolates were collected from 50 medical sites in the US and European countries, including oral (23), bloodstream (10), respiratory (8), skin and skin structure (6), wound (6), eye (5), prostate (2), and other (1). Isolates were included in the study if they met predefined criteria, including a clinical diagnosis of BJI and testing in accordance with CLSI guidelines, and were submitted to the SENTRY Antimicrobial Surveillance Program (AP) Laboratory, North Liberty, Iowa, USA.

**Antimicrobial susceptibility testing**

- All isolates were evaluated for susceptibility to oritavancin using the Clinical and Laboratory Standards Institute (CLSI) broth microdilution method. Testing was performed by the CLSI-approved SENTRY AP Laboratory, North Liberty, Iowa, USA.

- Breakpoint criteria for oritavancin were established based on CLSI guidelines and were applied to the clinical isolates included in this study.

**Conclusions**

- The study was sponsored by a grant from The Medicines Company (Firm). S. aureus, *S. mitis*, and MRSA are the most common Gram-positive pathogens associated with infections, including BJI, in the US and Europe (2012–2016), making oritavancin a promising candidate for treatment in infections caused by Gram-positive cocci.

**References**


