In Vitro Activity of Tedizolid Against Gram-Positive Pathogens Isolated From Patients With Skin and Skin Structure Infections in the United States and Europe During 2014

Introduction

Tedizolid phosphate (IVEXTRO®) has been reported to have broad antimicrobial activity against a wide spectrum of antimicrobial-resistant gram-positive pathogens (1-8), including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE). However, the overall in vitro activity of tedizolid compared with other therapeutic agents has not been extensively studied. Therefore, the activities of tedizolid and comparator agents tested against bacterial clinical isolates from the STAR Program are presented.

Methods

Bacterial strains

A total of 212 Staphylococcus aureus isolates and 528 Streptococcus agalactiae isolates were tested. All isolates were collected from patients with suspected bacterial skin and skin structure infections in the United States and Europe during 2014. The study included 102 isolates from the United States and 110 isolates from the European Union (EU).

Antimicrobial susceptibility testing

The minimum inhibitory concentration (MIC) values were determined using the reference Clinical and Laboratory Standards Institute (CLSI) broth microdilution method (9). The CLSI-specified breakpoints were used for all antibiotics except linezolid, for which USA-FDA breakpoints were applied (10). The endpoints of susceptibility were as specified by the FDA and EUCAST. Isolates were considered susceptible if they met the breakpoints for each agent.

Table 2. Summary of Tedizolid Activity Tested Against Bacterial Isolates From Patients With Skin and Skin Structure Infections in the United States and Europe During 2014.

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Results

Tedizolid exhibited high activity against S. aureus and S. agalactiae, with 100% of isolates susceptible to tedizolid at both 80/100 MIC values of 0.5/1 µg/mL (Table 2). Tedizolid was more potent than linezolid (7), with only 97.2% of S. aureus isolates susceptible to linezolid at 0.5/1 µg/mL.

Table 3. Activity of Tedizolid and Comparator Antimicrobial Agents When Tested Against Bacterial Isolates From Patients With Skin and Skin Structure Infections in the United States and Europe During 2014.

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Conclusions

Tedizolid exhibited high activity against S. aureus and S. agalactiae, with 100% of isolates susceptible to tedizolid at both 80/100 MIC values of 0.5/1 µg/mL. Tedizolid was more potent than other comparator agents tested against bacterial clinical isolates from the STAR Program.

References