Activity of Telavancin against Gram-Positive Cocci from CANWARD 2007-2013
using Previously Established and Revised CLSI Guidelines

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ABSTRACT

Background: Telavancin (TLV) is a bactericidal lipoglycopeptide with activity against methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VREF). TLV has been approved for treatment of complicated skin and skin structure infections (cSSSI) caused by MRSA. To date, there has been no published study of telavancin susceptibilities from the CANWARD Program.

Methods: Between 2007 and 2013, more than 12,000 isolates were collected from four large Canadian centers. All MRSA and VREF isolates were collected and included in the analysis. For susceptibility testing, a broth microdilution method was used to determine MIC values. The cut-off was ≤0.25 g/mL for S. aureus and ≤0.5 g/mL for VREF. The MIC breakpoints for S. aureus and VREF were ≤0.25/0.25 g/mL and ≤0.12/0.12 g/mL, respectively.

Results: Of the 12,000 isolates tested, 3797 were S. aureus and 8153 were VREF. The MIC distributions for S. aureus and VREF are shown in the table. The MIC of TLV for S. aureus was ≤0.25 g/mL in 96.1% of isolates, ≤0.5 g/mL in 72.9% and >0.5 g/mL in 27.1%. The MIC of TLV for VREF was ≤0.12/0.12 g/mL in 99.6% of isolates, ≤0.25/0.25 g/mL in 75.1% and >0.25/0.25 g/mL in 24.9%.

Conclusions: The results from this study are encouraging and demonstrate that TLV is effective against both S. aureus and VREF isolates. Further studies are needed to determine the clinical efficacy of TLV against these pathogens.

MATERIALS & METHODS

CANDARW Study Design

Between May 2007 and December 2013, 32,033 clinical isolates, including more than 10,000 Gram-positive cocci, were submitted as part of the ongoing CANWARD study assessing pathogen prevalence and antibiotic susceptibilities in Canadian hospitals. All S. aureus and VREF isolates were collected and included in the analysis. For susceptibility testing, a broth microdilution method was used to determine MIC values. The cut-off was ≤0.25 g/mL for S. aureus and ≤0.5 g/mL for VREF. The MIC breakpoints for S. aureus and VREF were ≤0.25/0.25 g/mL and ≤0.12/0.12 g/mL, respectively.

RESULTS

Table 1. Activity of telavancin and comparators against Gram-positive cocci

<table>
<thead>
<tr>
<th>Organism (no. tested) Number (cumulative percentage) inhibited at telavancin MIC (g/mL) [without P-80/with P-80]</th>
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<tr>
<td>S. aureus (3729/632) - / 1 (0.2) - / 168 (26.7) + / 102 (27.8)</td>
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<tr>
<td>VREF (8153/936) - / 1 (0.1) - / 508 (6.1)</td>
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CONCLUSIONS

Telavancin has demonstrated activity against a broad spectrum of Gram-positive pathogens, including both susceptible and resistant organisms. Further studies are needed to determine the clinical efficacy of this agent.

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