Background: Enterococcus (ERV) is a novel, fully synthetic fluorocyclin antibiotic of the tetracycline class being developed for the treatment of serious infections, including those caused by methicillin-resistant (MRSA) pathogens. As methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE) have become increasingly resistant to conventional therapies, there is a significant unmet medical need for novel therapies. As MRSA and VRE have overlapping susceptibility spectra, a comparison against global isolates of Staphylococcus spp. and Enterococcus spp. collected from 2013-2015 is of interest.

Methods: Clinical isolates were collected from various body sites in patients in the US and additional countries within North America (specifically, Canada). In 2014, MIC results for ERV and comparators were determined by the disk-diffusion method including 394 isolates from 2013-2015.

Results: EVP and comparator MIC results are shown in the table below. MIC values for the enteric organism were not reported in the same range. EVP was at least 16-fold more potent than tigecycline against enterococci. EVP showed 4-fold greater activity than tigecycline, +44-fold greater activity than micafungin, and a minimum of 8-fold greater activity than vancomycin against tested enterococci, including VRE.

Abstract

In vitro global surveillance of eravacycline and comparators against Staphylococcus spp. and Enterococcus spp. over a three-year period (2013-2015)

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Abstract

**Background**

Enterococcus (ERV) is a novel, fully synthetic fluorocyclin antibiotic of the tetracycline class being developed for the treatment of serious infections, including those caused by methicillin-resistant (MRSA) pathogens. As methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE) have become increasingly resistant to conventional therapies, there is a significant unmet medical need for novel therapies. As MRSA and VRE have overlapping susceptibility spectra, a comparison against global isolates of Staphylococcus spp. and Enterococcus spp. collected from 2013-2015 is of interest.

**Methods**

Clinical isolates were collected from various body sites in patients in the US and additional countries within North America (specifically, Canada). In 2014, MIC results for ERV and comparators were determined by the disk-diffusion method including 394 isolates from 2013-2015.

**Results**

<table>
<thead>
<tr>
<th>Isolate</th>
<th>EVP (mg/L)</th>
<th>Comparator (mg/L)</th>
<th>Comparator (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSV</td>
<td>0.001</td>
<td>Vancomycin</td>
<td>8</td>
</tr>
<tr>
<td>VRE</td>
<td>0.002</td>
<td>Micafungin</td>
<td>8</td>
</tr>
<tr>
<td>MRSA</td>
<td>0.0005</td>
<td>Tigecycline</td>
<td>8</td>
</tr>
</tbody>
</table>

**Conclusions**

- **ERV** demonstrated consistent and potent in vitro activity against a global collection of Staphylococcus spp. and Enterococcus spp., including resistant strains, from 2013-2015.
- **ERV** shows promising activity against globally resistant Gram-positive organisms, including those with resistant phenotypes.

Reference: