INTRODUCTION

Linezolid, the initial oxazolidinone approved by the Food and Drug Administration, offers an alternative for the treatment of complicated skin and skin structure infections (SSIs) resistant to standard antimicrobial agents. Linezolid received FDA approval for the treatment of vancomycin-resistant Enterococcus faecium (VRE)- and methicillin-resistant Staphylococcus aureus (MRSA)-related infections. This compound has emerged as a valuable therapeutic option for the treatment of infections caused by Gram-positive pathogens such as MRSA, drug-resistant Staphylococcus and VRE that are also exhibiting resistance to standard antibiotics. The Linezolid Program has monitored Linezolid activity, spectrum and resistance rates in the United States (USA) since 2007.

THE LINEZOLID PROGRAM

The Linezolid Experience and Accurate Determination of Resistance (LEADER) Program, implemented by bioMerieux, is an ongoing surveillance program that monitors the spectrum and resistance rates in the United States. The program is designed to generate national in vitro data for linezolid and comparator agents to be used in longitudinal studies to which future studies may be compared. The LEADER Program data collection includes the detection of emerging resistance mechanisms that would potentially limit future linezolid activity.

RESULTS

The activity of linezolid in the 2014 LEADER Program sampling of 60 medical centers (0.486 gram linezolid strain) is presented in Table 1. The Linezolid activity compared to other agents when tested against MRSA, MSSA, and VRE from USA various regions (LEADER Program, 2014), 6.85 strain.

Table 1. Number of isolates inhibited at each linezolid MIC when testing different isolates from USA various regions (LEADER Program, 2014), 6.85 strain.

<table>
<thead>
<tr>
<th>Organism/antimicrobial agent</th>
<th>0.25</th>
<th>0.5</th>
<th>1</th>
<th>2</th>
<th>≥8</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSSA</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
</tr>
<tr>
<td>MRSA</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
</tr>
<tr>
<td>VRE</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
<td>100.0/1.78/81.3</td>
</tr>
</tbody>
</table>

The Linezolid Experience and Accurate Determination of Resistance (LEADER) Program.

- MSSA: methicillin-sensitive Staphylococcus aureus
- MRSA: methicillin-resistant Staphylococcus aureus
- VRE: vancomycin-resistant Enterococcus spp.
- MSSA: methicillin-sensitive Staphylococcus aureus
- MRSA: methicillin-resistant Staphylococcus aureus
- VRE: vancomycin-resistant Enterococcus spp.

The LEADER Program (2014) demonstrates linezolid MIC results of 0.25 μg/mL; 0.5 μg/mL; 1 μg/mL; 2 μg/mL; and ≥8 μg/mL when tested against CoNS isolates, regardless of oxacillin susceptibility (ICU), (≥2; 2.4; 3.2; 4.1; 6.3). Resistance of linezolid to CoNS is highly prevalent, with only 15 (0.22%) isolates from different medical centers from 36 states were submitted. The study was sponsored by Pfizer Inc.

ACKNOWLEDGEMENT

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REFERENCES


Linezolid experience and accurate determination of resistance (LEADER) program. 2013. 5-7 March 2013, Long Beach, California.


