Although linezolid remains the only anti-Gram-positive agent approved for treatment of enterococcal infections, the emergence and dissemination of vancomycin-resistant enterococci (VRE) and vancomycin-resistant E. faecium have become a first-line option in these cases.

Enterococci represent the second and third most frequently observed pathogens causing infections in US medical centers during 2016–2017. While E. faecalis comprised 86%–94% of the isolates irrespective of the aminoglycoside phenotype,

Isolates originating from 81 sites located in 36 states in the United States and Europe, respectively, as part of the SENTR! Antimicrobial Surveillance Program were collected from US medical centers and identifications were confirmed at JMI Laboratories using matrix assisted laser desorption ionization time of flight technology mass spectrometry (Bruker Deserfer, Bremen, Germany).

Antimicrobial susceptibility testing

The oritavancin MIC50 and MIC90 values against vancomycin-susceptible E. faecalis (MIC50 ≤0.008 µg/mL) were 0.03 and 0.06 µg/mL, respectively, that displayed a susceptible phenotype to gentamicin and streptomycin-HL resistance used EUCAST methods and criteria.

Materials and Methods

Antimicrobial agent

All isolates were inhibited by oritavancin at 0.015 µg/mL, while 81.3% and 79.3% of E. faecalis and E. faecium isolates, respectively, were active (95.2%–99.5% susceptible) against vancomycin-nonsusceptible E. faecalis isolates, 83.7% and 93.5% of E. faecalis and E. faecium isolates, respectively, were active (98.3%–99.8% susceptible) against vancomycin-nonsusceptible E. faecium isolates.

Results

Conclusions

The aminoglycoside resistance phenotype did not play to affect the oritavancin in vitro activity; however, a vancomycin-resistant phenotype increased the oritavancin MIC values 2-fold.

Overall, oritavancin inhibited 96.8% of all E. faecalis at the susceptible breakpoints (≤0.015 µg/mL) for vancomycin-susceptible isolates.

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A vancomycin-nonsusceptible phenotype was detected in 34% of E. faecalis, while 29.8% and 14.0% of E. faecalis showed gentamicin and streptomycin-HL resistance (Table 1).

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All isolates were susceptible to ampicillin (data not shown).

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No. of isolates and cumulative % inhibited at MIC (µg/mL) of:

Table 3 Table 3: MIC distribution of oritavancin tested against E. faecium pathogens causing infections in US medical centers

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No. of isolates and cumulative % inhibited at MIC (µg/mL) of:

Materials and Methods

Bacterial isolates

A total of 1,138 E. faecalis and 435 E. faecium collected from US medical centers during 2016-2017 were included.

Isolates were responsible for the following infections:

Urinary tract (37.7%)

Bloodstream (37.2%)

Skin and soft tissue (24.7%)

Intra-abdominal (10.6%)

Other (3%)

Antimicrobial agent

This change in epidemiology is of paramount clinical importance, especially in the context of the increasing importance of vancomycin-resistant E. faecium-causing HAIs.

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Urinary tract (30.3%)

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Conclusions

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