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**Paper Poster Session**
**New and old antibiotics against Gram-positive cocci in vitro**

# The activity of tedizolid against Gram-positive pathogens isolated from patients in European and Israeli medical Centres: 2014 surveillance

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**Background**: Tedizolid (TZD) has regulatory approval for the treatment of acute bacterial skin and skin structure infections in the United States (USA), European Union, and Canada. The in vitro activities of TZD and comparator antimicrobial agents were tested against isolates of Gram-positive pathogens collected from medical centers across Europe and Israel during 2014.

**Methods**: In 2014, a total of 4,239 Gram-positive, non-duplicate, non-consecutive, single-patient clinical isolates were collected from 34 medical centers across 14 European countries and Israel (number of centers): Belgium (1), France (4), Germany (5), Greece (1), Ireland (2), Israel (1), Italy (4) Poland (1), Portugal (1), Russia (3), Spain (3), Sweden (2), Turkey (2), United Kingdom (3), Ukraine (1). Isolates were tested for antibacterial susceptibility (S) using broth microdilution as per CLSI guidelines. MIC values for TZD and linezolid (LZD) were read both at (1) the first well where trailing begins (80% read; TZD80 and LZD80) as described in CLSI M07-A10 and (2) at endpoint (100% growth inhibition; TZD100 and LZD100). CLSI and EUCAST breakpoints were used to determine %S.

**Results**: A total of 1,993 *S. aureus* isolates (25.1% MRSA) were evaluated; 100% of these were S to TZD. The $MIC_{50/90}$ values for TZD80 ($MIC_{50/90}$, 0.12/0.12 mg/L) were one doubling dilution lower than TZD100 (0.25/0.25 mg/L) and four-fold lower than observed for LZD (LZD80, $MIC_{50/90,}$ 1/1 mg/L; LZD100, $MIC_{50/90,}$ 1/2 mg/L). Of 452 coagulase-negative staphylococci, all were S to TZD, with $MIC_{50/90}$ values for TZD80 ($MIC_{50/90}$, 0.06/0.12 mg/L) being one doubling dilution lower than TZD100 (0.12/0.25 mg/L) and four- to eight-fold lower than for LZD (LZD80, $MIC_{50/90,}$ 0.5/0.5 mg/L; LZD100, $MIC_{50/90,}$ 1/1 mg/L). TZD was active (TZD80 $MIC_{90}$, 0.25; TZD100 $MIC_{90}$, 0.5 mg/L) against 766 *Enterococcus* spp. Of 472 *E. faecalis* isolates, 99.2% were S by the CLSI breakpoint of ≤0.5 mg/L (for both TZD100 and TZD80), and 99.6/99.8% S (CLSI/EUCAST) to LZD80 . Of 239 β-hemolytic streptococci, 100% of isolates were S to TZD100 ($MIC_{50/90}$, 0.12/0.25 mg/L) and LZD80 ($MIC_{50/90}$, 1/1 mg/L). All 110 viridans group streptococcal isolates were S to both drugs, with TZD100 being two- to four-fold more potent ($MIC_{50/90}$, 0.12/0.25 mg/L) than LZD100 ($MIC_{50/90}$, 0.5/1 mg/L); TZD breakpoints are only defined for the *S. anginosus* group subset, where all 34 isolates were S to TZD100. TZD100 was also very active ($MIC_{50/90}$, 0.25/0.25 mg/L) against 739 pneumococcal isolates.

**Conclusion**: TZD demonstrated greater in vitro potency (two- to four-fold) when compared to LZD against Gram-positive pathogens isolated from patients in Europe and Israel medical centers during 2014 and no tedizolid-resistant isolates were found. In general, MIC distributions and $MIC_{50/90}$ values for TZD and LZD read without regard to pinpoint trailing colonies were one doubling dilution lower than those read at 100% inhibition.