915. Global 2018 Surveillance of Eravacycline Against Gram-Positive Pathogens, Including Resistant Isolates

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Background. Eravacycline (ERV) is a fully-synthetic, fluorocycline antibacterial approved by the FDA and EMA for the treatment of complicated intra-abdominal infections (cIAI) in patients ≥18 years of age. The purpose of this study was to further monitor the in vitro activity of ERV against Gram-positive pathogens, such as Staphylococcus aureus (including methicillin-resistant S. aureus, MRSA), Enterococcus spp. (including vancomycin-resistant Enterococcus, VRE) and Streptococcus spp.

Methods. Isolates were collected globally during 2018 from various body sites. Minimum inhibitory concentrations (MICs) were determined by CLSI broth microdilution. Antibiotic susceptibility was determined using the most recent CLSI breakpoints (30th ed CLSI M100 document), except for ERV and tigecycline (TG) where FDA breakpoints from 2018 and 2005, respectively, were applied.

Results. Summary MIC data for ERV and select comparators are shown in the Table. ERV MICvalues for Enterococcus spp were 0.06/0.12 μg/mL and were not affected by the presence of vancomycin resistant mechanisms. The MICERVvalues for methicillin susceptible S. aureus (MSSA) was 0.12 μg/mL and for MRSA was 0.25 μg/mL. Generally, for all pathogens, ERV MICvalues were 2- to 4-fold lower than TG.

| Organisms (N) | ERV MIC (μg/mL) | TGC MIC (μg/mL) | VAN MIC (μg/mL) | CAP MIC (μg/mL) |
|---------------|-----------------|-----------------|-----------------|---------------|
| Enterococcus spp (969) | 0.06/0.12 | 1/16 | 1/16 | 2/2 |
| E. faecalis (502) | 0.06/0.12 | 1/2 | 1/2 | 0.25/0.5 |
| E. faecium (483) | 0.06/0.12 | 1/16 | 1/16 | 2/2 |
| VRE (126) | 0.05/0.12 | 0.25/0.5 | 0.25/0.5 | 0.25/0.5 |
| S. aureus (320) | 0.06/0.12 | 1/2 | 1/2 | 0.25/0.5 |
| MSSA (308) | 0.06/0.12 | 1/2 | 1/2 | 0.25/0.5 |
| MRSA (312) | 0.06/0.12 | 1/2 | 1/2 | 1/2 |
| Streptococcus anginosus group (48) | 0.015/0.03 | 0.03/0.06 | 0.8/1.0 | 0.25/0.5 |

Units in μg/mL, MICerv - minimum inhibitory concentration required to inhibit growth of 50-90% of isolates. *St. agnosus, St. constellatus, St. intermedius

Conclusion. ERV in vitro activity was demonstrated for clinically important Gram-positive pathogens, including resistant isolates. Overall, ERV demonstrated lower MICvalues than comparators for all organisms. This 2018 global surveillance highlights ERV’s utility against Gram-positive organisms and further underscores its role in cIAI, where these pathogens play a causative role.

Disclosures. Steven Morgan, PharmD, Tetraphase Pharmaceuticals (Employee) Sara Hwang, PharmD, Tetraphase Pharmaceuticals (Employee) Ekaterina Efimova, PharmD, Tetraphase Pharmaceuticals (Scientific Research Study Investigator) Stephen Hawser, PhD, Tetraphase Pharmaceuticals (Employee) Virgil Lijfrok, PharmD, Tetraphase (Employee)