**Abstract**

**Background:** Eravacycline (ERV) is a novel, fully-synthetic fluorocycline antibiotic of the tetracycline class being developed for the treatment of serious infections, including those caused by multidrug-resistant (MDR) pathogens. ERV is in phase 3 clinical development for the treatment of complicated intra-abdominal infections (cIAI) and complicated urinary tract infections (cUTI), including pyelonephritis. The purpose of this study was to evaluate the activity of ERV against key pathogens from the US isolated from GI and GU sources.

**Methods:** MIC results for ERV and comparator agents were determined by CLSI broth microdilution against 104 GI and 1199 GU isolates collected from US hospitals in 2013-2014. MDR was defined as resistant to ≥ 3 of the following antibiotics: cefepime/ceftriaxone, ceftazidime/ceftriaxone, trimethoprim-sulfamethoxazole, and levofloxacin.

**Results:** ERV MIC data for species where n ≥ 30 from GI and GU isolates shown in Table 1. The MIC50 and MIC90 values for Gram-positive isolates from GU and GI sources are shown in Table 2. The MIC50 and MIC90 values for Gram-negative isolates from GU and GI sources are shown in Table 3.

**Conclusion:** For GI and GU isolates, the ERV MIC50 was ≥ 2 mg/L, except for P. aeruginosa. ERV showed activity against clinically important Gram-negative and -positive isolates from GU or GI infections in the US.

**Results**

- For GI and GU isolates shown in Table 1, the ERV MIC50 was ≥ 2 mg/L, except for P. aeruginosa (MIC50 = 16 mg/L).

**Methods**

A total of 104 GI and 1199 GU clinical isolates, collected from 2013-2014 from 43 US hospitals, were tested. Minimal inhibitory concentration (MIC) endpoints were determined by broth microdilution according to CLSI guidelines (8).

**Quality control testing** was performed each day of testing as specified by the CLSI. Ceftriaxone (ATCC 25220), E. coli (ATCC 25922), Enterococcus faecalis (ATCC 29212), Pseudomonas aeruginosa (ATCC 27853, Staphylococcus aureus (ATCC 29213), and Streptococcus pneumoniae (ATCC 90218).

**MIC susceptibility** was determined using CLSI breakpoints (3), with the exception of tigecycline where MIC90 breakpoints were used (3).

**MDR** was defined as resistant to ≥ 3 of the following antibiotics: cefepime/ceftriaxone, ceftazidime/ceftriaxone, trimethoprim-sulfamethoxazole, and levofloxacin.

**Results**

- For GI and GU isolates shown in Table 1, the ERV MIC50 was ≥ 2 mg/L, except for P. aeruginosa (MIC50 = 16 mg/L).

**Conclusions**

Based on MIC50 values for Gram-negative pathogens, the potency of ERV was up to 4-fold greater than that of TGC (Table 4).