

therapeutic options include combinations of aztreonam (ATM), which is resistant to hydrolysis by MBLs, plus ceftazidime/avibactam (CZA) or meropenem/vaborbactam (M/V) for coverage of relevant SBLs. However, these selections add a level of complexity to clinical management compared with administration of a single antibiotic as monotherapy.

Methods. Minimum inhibitory concentrations (MICs) of WCK 5222 (cefepime/zidebactam), ATM, CZA, and M/V were determined with Liofilchem MIC Test Strips against SBL- and MBL-positive CRE ($N = 15$). The gradient diffusion strip (GDS) cross method was used to assess the activities of CZA+ATM and M/V+ATM. Additive interactions as defined by fractional inhibitory concentration indices ≤ 1 would be predicted based upon the known genotypic profiles; thus, the relative activities of the combination regimens were compared with the "zone of hope" (ZOH) test. The size of the ZOH (the zone of inhibited growth) was quantitated by multiplying the observed length of inhibited growth (in mm) adjacent to each GDS from the point of intersection. The Mann-Whitney rank-sum test was used to assess differences.

Results. All isolates ($N = 15$) contained one MBL and ≥ 1 SBL, and were resistant to ATM, CZA, and M/V with the exception of one isolate intermediate to M/V (MIC=8 mg/L). The WCK 5222 MIC₅₀ (range) was 1 (0.19–2) mg/L. The median (interquartile range) ZOH product for CZA+ATM and M/V+ATM was 75.4 (62.8–93.7) and 23.5 (14.1–60.4), respectively ($P = 0.002$). In strains that produced OXA-type carbapenemases ($n = 6$), the median ZOH product for CZA+ATM and M/V+ATM was 78.1 and 20.7, respectively ($P = 0.004$). In the remaining 9 strains with a single carbapenemase (i.e., the MBL), the median ZOH product for CZA+ATM and M/V+ATM was 73.8 and 25.6, respectively ($P = 0.052$).

Conclusion. WCK 5222 displayed potent *in vitro* activity against SBL- and MBL-positive CRE, warranting further pre-clinical *in vivo* evaluation as a monotherapy option. When considering the co-expression of SBL and MBL, CZA+ATM appears to offer enhanced coverage compared with M/V+ATM.

Disclosures. All authors: No reported disclosures.

686. Evaluation of Conteozolid Activity to Anaerobic and Gram-positive-cocci Isolates from a Phase 3 Acute Bacterial Skin and Skin Structure Infection Clinical Trial (MRX-I-06)

Yang Yang, Master of Medicine^{1,2}; Demei Zhu, Bachelor¹; ¹Institute of Antibiotics, Huashan Hospital, Fudan University, Shanghai, China (People's Republic), ²Key Laboratory of Clinical Pharmacology of Antibiotics, National Health and Family Planning Commission, Shanghai, China (People's Republic)

Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
Thursday, October 3, 2019: 12:15 PM

Background. Conteozolid (MRX-I) is an oxazolidinone in development for the treatment of acute bacterial skin and skin structure infections (ABSSSIs). In this study, *in vitro* susceptibility (S) for Conteozolid and comparator agents for Gram-positive (GP) and anaerobic isolates from Phase 3 ABSSI clinical trials were determined.

Methods. 313 isolates were collected from 65 participated sites and sent to a central laboratory for MIC testing. Clinical isolates included 34 anaerobes (15 *Finegoldia magna*, 8 *Actinomyces* spp., 4 *Prevotella* spp., 3 *Propionibacterium avidum*, 2 *Peptostreptococcus* spp., 1 *Veillonella* spp. and 1 *Bacteroides fragilis*), 187 *S. aureus* (59.7%), 12 *S. pyogenes*, 5 *Enterococcus*, and 75 other Gram-positive organisms. Broth micro-dilution method was used to determine the MIC of conteozolid, linezolid, and other comparators to facultative isolates. Agar dilution was carried out for the anaerobes.

Results. For both 33 MRSA and 154 MSSA MIC_{50/90} values of conteozolid and linezolid were 2 mg/L. One *E. faecalis* showed decreased susceptibility to oxazolidinones (both MIC = 4). 1 mg/L conteozolid and linezolid could inhibit 12 *S. pyogenes*. 2 mg/L conteozolid and linezolid could inhibit 15 *Finegoldia magna*. 0.5 mg/L conteozolid and linezolid could inhibit 8 *Actinomyces* spp. To one *Bacteroides fragilis*, two *Prevotella bivia* and one *Leuconostoc lactis* (Intrinsic resistant to vancomycin) the MIC of conteozolid were 4 or 8 mg/L. In general, Conteozolid had lower or equal MIC_{50/90} values against both GP and ANA species compared with linezolid for all organisms.

Conclusion. Conteozolid demonstrated potent *in vitro* antibacterial activity against Gram-positive and anaerobic isolates tested. These data suggest that conteozolid might be a beneficial supplement to the arena against MDR Gram-positive infection.

Disclosures. All authors: No reported disclosures.

687. In vitro Activity of a New Generation Oxopyrazole Antibiotic Against Acinetobacter spp.

Joel Goldberg, MD, PhD¹; Christopher Bethel, MS²; Andrea M. Hujer, BS³; Kristine Hujer, BS³; Steven Marshall, MS⁴; Krisztina M. Papp-Wallace, PhD^{1,2}; Federico Perez, MD, MS¹; Elizabeth Spencer, MS⁵; Denton Hoyer, PhD⁵; Mark Plummer, PhD⁵; Robert A. Bonomo, MD⁶; ¹Case Western Reserve University, Cleveland, Ohio; ²Louis Stokes Cleveland VA Medical Center, Cleveland, Ohio; ³Louis Stokes VA Medical Center, Cleveland, Ohio; ⁴Louis Stokes Cleveland Medical Center, Cleveland, Ohio; ⁵Yale University, West Haven, Connecticut; ⁶Louis Stokes Cleveland VA Medical Center, Cleveland, Ohio

Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
Thursday, October 3, 2019: 12:15 PM

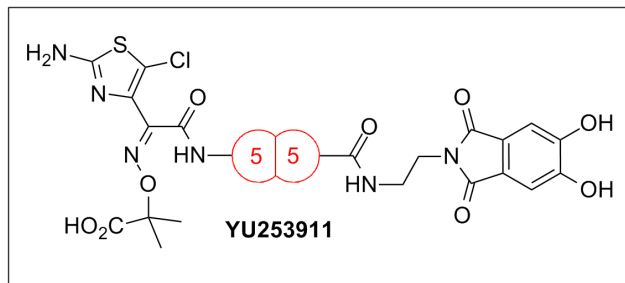
Background. *Acinetobacter* spp. resistant to common antibiotics have become a worrying cause of hospital-acquired infections and represent a critical need for innovative antibacterial development. New oxopyrazole agents targeting penicillin-binding

proteins (PBPs) based on a non-β-lactam core and incorporating a siderophore moiety (figure) which facilitates transport to the periplasm are being developed which show promise against Gram-negative organisms including *Acinetobacter* spp.

Methods. YU253911, an example of this new class of antibacterials, was characterized *in vitro*. Minimum inhibitory concentrations (MICs) were determined by broth microdilution against a collection of 200 previously described (whole-genome sequencing) *Acinetobacter* isolates including 98 carbapenem-resistant *A. baumannii* strains. YU253911's antimicrobial activity was also evaluated in combination with complementary PBP agents and β-lactamase inhibitors by MIC and disc diffusion testing. All studies were performed according to current Clinical and Laboratory Standards Institute (CLSI) guidelines using iron-depleted media. Breakpoints for ceftazidime were arbitrarily chosen as reference.

Results. Using ceftazidime (breakpoint ≤ 8 μg/mL) as a comparator, 175 of the 200 *Acinetobacter* isolates were susceptible to YU253911, which possessed an MIC₅₀ of 0.5 μg/mL and an MIC₉₀ of 16 μg/mL. This compared favorably to all previously tested β-lactams including penicillins, cephalosporins, monobactams and carbapenems (MIC₅₀ 2 to >16 μg/mL). Against the subset of carbapenem-resistant *A. baumannii* isolates, YU253911's potency was similar with an MIC₅₀ of 1 μg/mL. Genetic analysis showed β-lactamase genes, including OXA-23 and other carbapenemases, were common in both YU253911-resistant and susceptible strains.

Conclusion. YU253911 demonstrates promising *in vitro* potency against a collection of *Acinetobacter* isolates and compares favorably to β-lactam antibiotics. Understanding interactions with PBP agents and β lactamase inhibitors is being explored as well as further studies on the mechanism of resistance.



Disclosures. All authors: No reported disclosures.

688. In Vitro Activity of Eravacycline, a New Tetracycline Analog, and Comparators Against the Six Most Commonly Isolated Ribotypes of Clostridioides difficile

Eugenie Basseres, PhD; Julie Miranda, MPH; Anne J. Gonzales-Luna, PharmD; Travis J. Carlson, PharmD; Tasnuva Rashid, MD, PhD, MPH; M. Jahangir Alam, PhD; Kevin W. Garey, PharmD, MS, FASHP; University of Houston College of Pharmacy, Houston, Texas

Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
Thursday, October 3, 2019: 12:15 PM

Background. Eravacycline is a novel, tetracycline class antibacterial indicated for the treatment of complicated intra-abdominal infections in adults. In clinical trials, patients given eravacycline had a low likelihood of developing *Clostridioides difficile* infection (CDI). We hypothesized this was likely due, in part, to the *in vitro* susceptibility of eravacycline to *C. difficile*. The purpose of this study was to test the *in vitro* susceptibility of eravacycline vs. comparators on contemporary clinical isolates representing common ribotypes, including isolates with decreased susceptibility to metronidazole and vancomycin.

Methods. Two hundred and thirty-four isolates from our biobank were selected from the six most common ribotypes (F001, F002, F014-020, F027, F106, and F255). Minimum inhibitory concentrations (MIC) at 24 hours were measured according to CLSI guidelines for eravacycline, vancomycin, metronidazole and fidaxomicin. MICs results were tabulated and are presented as the geometric mean by ribotype.

Results. Geometric MIC results are shown in Table 1. Eravacycline was the most potent antimicrobial tested followed by fidaxomicin, metronidazole, and vancomycin. Results were consistent amongst all ribotypes, including isolates with reduced susceptibility to vancomycin and metronidazole.

Conclusion. Eravacycline displayed potent *in vitro* activity against a large collection of clinical *C. difficile* isolates. These data provide insight into why patients given eravacycline had a low likelihood of developing CDI and support further research to better understand the use of eravacycline to prevent or potentially treat patients with CDI.

Drug	MIC (mg/L) geometric mean by ribotype					
	F001	F002	F014-020	F027	F106	F255
Eravacycline	0.01	0.01	0.01	0.01	0.01	0.01
Vancomycin	1.52	1.58	1.66	1.71	1.70	1.70
Metronidazole	0.23	0.25	0.25	0.24	0.24	0.25
Fidaxomicin	0.02	0.03	0.03	0.03	0.03	0.03