CFU/mL) against 60% and 20% of isolates exposed to DAP+CPT or DAP+OXA, respectively.

**Conclusion.** Among persistent MRSA bloodstream isolates, combinations of DAP + CPT or OXA demonstrates synergy and statistically greater killing effects in *vitro* at Cmax concentrations than DAP alone. Log kills were greatest with DAP+CPT, which merits further validation in *vivo* clinical models.

**Disclosures.** All authors: No reported disclosures.

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**2404. Telavancin (TLV) and Vancomycin (VAN) Activity and Impact on Mechanical Properties When Incorporated into Orthopedic Bone Cement**

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**Session:** 250. Treatment of AMR Infections Saturday, October 6, 2018: 12:30 PM

**Background.** To increase available antibiotics for local administration in total joint replacements, this study investigated TLV and VAN added to Palacos® bone cement. Mechanical properties and antimicrobial activity of eluted antibiotics on common causative orthopedic implant pathogens were assessed.

**Methods.** Palacos (40 g package) samples were loaded with TLV or VAN powder (control 2.0 g) to test drug activity and mechanical properties: bending, compression, and fracture toughness. Samples were prepared following clinical standards and as previously described (Slane et al., 2014 MSE 42: 168–176). All mechanical samples were wet cured for 21 days in PBS at 21°C before testing in accordance with ISO 5833. With a starting inoculum of 107 CFU/mL, antibiotic activity was measured for 14 days against two methicillin-resistant *S. aureus*, one methicillin-susceptible *S. aureus* and one *S. epidermidis*.

**Results.** The eluted dosages from samples with 0.25 g VAN or more per Palacos package were sufficient to eliminate a 107 CFU/mL inoculum of *S. aureus* organisms. 2.0 g of TLV was required to achieve the same bactericidal effect. TLV 2.0 g was able to fully clear the initial inoculum of a high biofilm producing *S. epidermidis*. No tested vancomycin dosage replicated these results. Adding more than 0.5 g of TLV or VAN per Palacos package reduced compressive yield strength to (VAN) or below (TLV) the ISO 70MPa minimum. Fracture toughness and flexural strength were not significantly altered with either antibiotic.

**Conclusion.** Adding either TLV or VAN to Palacos before polymerization reduced bending properties similarly but maintained ISO standards. More VAN than TLV can be added and still maintain compressive yield strength above ISO requirements (1.0 g VAN vs. 0.5 g TLV). VAN eliminated the tested *S. aureus* strains at a lower added mass. However, TLV was more effective against a high biofilm producing *S. epidermidis*. VAN was highly effective at eliminating a bacterial inoculum consistent with surgical contamination while maintaining ISO standards. The authors would like to acknowledge Theravance Biopharma US, Inc. for their support and funding.

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**2405. In vitro Synergistic Activity of Sitafloxacin in Combination With Colistin Against Clinical Isolates of Multidrug-Resistant Acinetobacter baumannii in Thailand**

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**Background.** Multidrug-resistant Acinetobacter baumannii (MDR-AB) is a major cause of nosocomial infections, and associated with high mortality rate. The objective of this study was to test synergistic effect of sitafloxacin and colistin against MDR-AB clinical isolates in Thailand.

**Methods.** The synergistic effect of sitafloxacin in combination with colistin against the 264 MDR-AB clinical isolates from 13 tertiary care hospitals in Thailand were tested. The fractional inhibitory concentration index (FICI) of combination was determined using the checkerboard method according to CLSI 2016. Time–kill assays were performed for 2 strains (H25 and K21) using sitafloxacin alone and in combination with colistin.

**Results.** The MICs of sitafloxacin and colistin range from 0.0156 to 8 µg/mL, and 0.5–16 µg/mL, respectively. The results of synergy testing for the 264 MDR-AB isolates are shown in Table 1. Sitafloxacin reduced the MIC of colistin 2-fold to 8-fold from the original concentrations (Figure 1). From 43 colistin-resistant isolates in combination tested, 39 isolates (90.7%) become susceptible to colistin. In the time–kill assay, synergistic effects were found for two isolates in all concentrations tested, and bactericidal activity was observed within 4 hours and maintained over 24 hours (Figures 2 and 3).

**Conclusion.** The synergistic effect of sitafloxacin and colistin combination was found. Most of isolates had at least a 2-fold decrease in MIC of colistin, which could be implied to reduce dose of colistin 50% from regular dose. Sitafloxacin combined with colistin may be benefit for alternative treatment of MDR-AB infections.

**Table 1:** Synergistic Effect of Sitafloxacin and Colistin Against MDR-AB Isolates (*n* = 264) Using the Checkerboard Assay

| Antimicrobial Agents | Synergy (FICI) | Partial Synergy (FICI >0.5–<1) | Additive (FICI =1) | Indifference (FICI >1–<4) | Antagonism (FICI ≥4) |
|---------------------|--------------|-------------------------------|-------------------|--------------------------|---------------------|
| Sitafloxacin and colistin | 9(3.4) | 99(37.5) | 78(28.4) | 81(30.7) | 0(0) |

**Figure 1:** MIC reduction of colistin in combination with sitafloxacin against MDR-AB (*n* = 264)

**Figure 2:** Time–kill curves for sitafloxacin and colistin alone against two isolates of MDR-AB.