**ABSTRACT**

**Background:** Pexiganan (PEX) is a 22-amino acid synthetic analog of peptide magainin II that is currently in Phase 3 clinical trials as a topical antimicrobial (PEX cream 0.8% or 0.025% vancomycin free base) for treatment of multidrug-resistant infections (MDR) of the diabetic foot ulcer (DFU).

**Methods:** Against PEX and pexiganan we tested blood cultures from Clinical Laboratory and Surveillance Program designated as pathogens from DFI (n=102) and VRSA (n=2). Two VRSA strains (one hVISA, one VISA) and four community-acquired VRSA strains were included. MIC testing was performed with the CHROMagar® VRSA (Remel, Kansas City, MO).

**Results:** Among the 102 DFI Enterobacteriaceae from the 2013 SENTRY Antimicrobial Surveillance Program in 2013.

**Materials and Methods:**

**Organisms:** We selected 46 bacterial isolates from the 2013 Global SENTRY Surveillance Program that were resistant to multiple antimicrobials and that were clinically relevant based on our in vitro and in vivo testing. The strains were selected with the following criteria: (1) antimicrobial resistance, (2) resistance to multiple antimicrobials, (3) clinical relevance.

**Susceptibility testing:** Broth microdilution methods were performed according to CLSI guidelines and standard methods (document MI-M10-A22) using MIC panels produced by CLSI. MICs were determined by the CLSI broth microdilution method. MICs were interpreted according to CLSI guidelines. Interpretable criteria for comparator antimicrobials were those as published in reference 9. The achievable topical concentration of pexiganan (free base) in the cream/delivery vehicle, indicating that the achievable topical concentration of pexiganan (free base) in the cream/delivery vehicle was >250-fold below the concentration of PEX in the cream/delivery vehicle. PEX should be further evaluated in infected patients with DFI as well as other wound infections for whom topical therapy is appropriate.

**Conclusions:** Pexiganan demonstrated potent activity against clinical isolates from DFI in 2013 as well as a selected group of resistant pathogens to many currently available antimicrobials. This spectrum of activity included isolates with resistance to many currently available antimicrobials. Further study in infected patients with DFI as well as other wound infections for whom topical therapy is appropriate is warranted.

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**REFERENCES**