**BACTERIAL ACTIVITY OF DELAFLOXACIN AGAINST RECENT ISOLATES OF STAPHYLOCOCCUS AUREUS**

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**ABSTRACT**

Delafloxacin, an antibiotic fluoroquinolone, has demonstrated excellent in vitro activity against Gram-positive and Gram-negative pathogens, including methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus faecalis*. In a recent delafloxacin Phase 3 acute bacterial skin and skin structure infection (ABSSSI) trial that excluded MRSA and *E. faecalis*, MRSA isolates from post-trial specimens were selected for experiments to determine the in vitro antimicrobial activity of delafloxacin by time-kill methodology.

**METHODS**

Delafloxacin, levofloxacin, daptomycin, and linezolid MICs were determined after sampling MRSA isolates from a recently-completed delafloxacin Phase 3 clinical trial for the treatment of ABSSSI. Specimens were selected to experimentally determine the in vitro antibacterial activity of delafloxacin by time-kill methodology.

**RESULTS**

Delafloxacin, with MICs and MBCs lower than those of levofloxacin, demonstrates favorable bactericidal activity against MRSA, levofloxacin-susceptible MRSA isolate 110, and isolates that are levofloxacin-resistant. Concentration-dependent killing of delafloxacin was found to be strain-dependent. Minimum bacterial concentrations (MBCs) were determined for all agents but linezolid; all were tested against the quadruple mutant MRSA strain, and minimal bacterial concentrations (MBCs) were determined for all agents but linezolid.

**CONCLUSION**

Concentration-dependent killing of delafloxacin was found to be strain-dependent. Bactericidal activity was observed for delafloxacin and levofloxacin against the levofloxacin-susceptible MRSA isolate 110 at 24 hours. Delafloxacin and levofloxacin demonstrated excellent activity against MRSA, including those isolates that are levofloxacin-resistant.

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**REFERENCES**