Delafloxacin activity tested against bacterial pathogens from 44 medical centres in Europe and Israel (2014)

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RK FLAMM, DJ FARRELL, HS SADER, RN JONES
JMI Laboratories, North Liberty, IA, USA

ABSTRACT

Background: Delafloxacin is an investigational quinolone fluoroquinolone antibiotic currently in phase II human clinical trials. In vitro activity against a broad range of Gram-positive and Gram-negative bacterial isolates is associated with a potent anti-pseudomonal activity and a unique resistance phenotype. The aim of the study was to examine the susceptibility profiles of clinical isolates from Europe and Israel, and to determine the potential utility of delafloxacin in treating infections associated with multidrug-resistant clinical isolates.

Methods: A total of 2,770 Gram-positive and -negative, non-oxidase producing Enterobacteriaceae and anaerobic bacteria collected from patients in 44 medical centres located in 13 countries belonging to the EUCAST 50 of the Infectious Diseases Society of America were included. Isolates were tested by broth microdilution using the CLSI guidelines. Etest breakpoints were used to determine susceptibility.

RESULTS: The delafloxacin MIC90 for all isolates was ≤0.06 mg/L. Delafloxacin was the most active against all tested species. Against S. aureus and S. epidermidis, the delafloxacin MIC90 was 0.015 mg/L. Against MRSA, the delafloxacin MIC90 was 0.06 mg/L. The delafloxacin susceptibility was ≥95.2% against Enterococcus spp., including E. faecalis, E. faecium, and vancomycin-resistant E. faecium. The delafloxacin MIC90 was 0.06 mg/L against P. aeruginosa with 97.8% of isolates inhibited at ≤0.06 mg/L. Delafloxacin also inhibited ≥97.3% of Gram-negative bacteria tested, including 100% of Enterobacteriaceae, and ≥97.8% of P. aeruginosa, Acinetobacter spp., and Citrobacter spp. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L. Against MRSA, the delafloxacin MIC90 was ≤0.06 mg/L.

CONCLUSIONS: Delafloxacin demonstrates a potent anti-pseudomonal activity and high activity against Gram-negative bacteria, including Acinetobacter spp., and P. aeruginosa, with ≥97% of isolates inhibited at ≤0.06 mg/L. Delafloxacin also showed high activity against Gram-positive bacteria, including ≤95% of isolates inhibited at ≤0.06 mg/L. Delafloxacin also showed high activity against Gram-positive bacteria, including ≤95% of isolates inhibited at ≤0.06 mg/L. Delafloxacin also showed high activity against Gram-positive bacteria, including ≤95% of isolates inhibited at ≤0.06 mg/L. Delafloxacin also showed high activity against Gram-positive bacteria, including ≤95% of isolates inhibited at ≤0.06 mg/L.

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REFERENCES


