

Moxifloxacin

A Viewpoint by Richard Wise

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Moxifloxacin, a new fluoroquinolone with a broad antimicrobial spectrum, shows enhanced activity against Gram-positive organisms in comparison with older agents of this class. In many respects, its activity is similar to that of trovafloxacin; however, the latter compound is a naphthyridine rather than a fluoroquinolone, which may explain the difference in adverse effect profile between the 2 agents.

Moxifloxacin is 4- to 8-fold more active than ciprofloxacin against the clinically important respiratory pathogen *Streptococcus pneumoniae* (both penicillin-susceptible and -resistant strains). *Haemophilus influenzae*, *Moraxella catarrhalis*, *Mycoplasma pneumoniae* and *Legionella* spp. are also highly susceptible to moxifloxacin. Against common Gram-negative pathogens, such as *Escherichia coli*, *Proteus* spp. and *Klebsiella* spp., moxifloxacin tends to be 2-fold less active than ciprofloxacin but infections caused by these pathogens are still potentially treat-

able with moxifloxacin. However, *Pseudomonas aeruginosa* is best considered not susceptible to the drug.

Comparable serum concentrations are achieved with the oral and intravenous routes and the elimination half-life of 8 to 10 hours should allow once daily administration. As with other fluoroquinolones, moxifloxacin penetrates well into the respiratory tract, achieving concentrations in the bronchial mucosa about twice those in serum. Intracellular penetration data suggest moxifloxacin for use in treating infections caused by intracellular pathogens. Elimination is by the renal and faecal routes ($\approx 20\%$ of the parent drug appears in the urine). Moderate renal impairment will not require dosage modification.

Currently, extensive phase III trials of moxifloxacin are under way, mainly in respiratory tract infections, where the drug will undoubtedly find an important clinical role, mainly in the treatment of community-acquired infections. The usual dosage will probably be 400 mg/day. Preliminary clinical efficacy and tolerability data are very promising: in particular, moxifloxacin appears to have a low phototoxic potential. ▲