**Pefloxacin**

A Review of its Antibacterial Activity, Pharmacokinetic Properties and Therapeutic Use

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Summary

Pefloxacin is a fluorinated quinolone that is structurally related to nalidixic acid. It can be administered both orally and intravenously, and has a broad spectrum of in vitro activity against Gram-negative organisms and staphylococci. The pharmacokinetic profile of pefloxacin is characterised by high bioavailability after oral administration, a long half-life and good penetration of tissue and body fluids.

Data from mainly non-comparative studies suggest that pefloxacin has the potential for use in a variety of serious or difficult-to-treat and nosocomially acquired infections in hospitalised and immunocompromised patients. Such infections have included respiratory tract, urogenital tract, and bone and joint infections, septicaemia and surgical infections, in addition to severe Gram-negative infections in neutropenic cancer patients. Pefloxacin demonstrates comparable efficacy with ampicillin combined with gentamicin in upper gynaecological tract infections, ceftazidime in nosocomially acquired Gram-negative infections and co-trimoxazole (trimethoprim + sulphamethoxazole) in uncomplicated urinary tract infections and typhoid fever.

Although the place of pefloxacin in this new and expanding class of 4-quinolone antibacterial drugs has yet to be defined and it appears to be a well-tolerated and useful drug for the treatment of serious infections in hospitalised patients, further studies are awaited with interest for confirmation of these preliminary results.

Antibacterial Activity

Pefloxacin is a fluorinated quinolone which is structurally related to nalidixic acid. Most species of Enterobacteriaceae are susceptible or moderately susceptible to pefloxacin (MIC\(_{90}\) ≤ 2 mg/L); Providencia rettgeri is only moderately susceptible to the drug. For most species of Enterobacteriaceae the potency of pefloxacin was equivalent to that of enoxacin, ofloxacin, norfloxacin and cefotaxime, less than that of ciprofloxacin, and greater than that of nalidixic acid, ampicillin, amikacin, gentamicin and ceftazidime. Pefloxacin is a potent inhibitor of Neisseria gonorrhoeae and N. meningitidis, while strains of Acinetobacter are susceptible or moderately susceptible to the drug. Branhamella catarrhalis and Campylobacter species are susceptible or moderately susceptible to pefloxacin as well as to the other 4-quinolones tested. Haemophilus ducreyi is highly susceptible (MIC\(_{90}\) <