Introduction

Chlamydia spp. are important human pathogens. Chlamydia trachomatis is the most frequent sexually transmitted infection in the United States, responsible for over three million cases of cervicitis and urethritis per year.1 Chlamydia pneumoniae is a frequent cause of community-acquired respiratory tract infection including pneumonia and bronchitis in adults and children.2,3 Quinolones have attracted interest as potential therapy for both sexually transmitted infections and community-acquired respiratory tract infections because they are active against a wide range of pathogens responsible for these diseases. Ofloxacin is currently recommended by the Centers for Disease Control as an alternative regimen for the treatment of genital Chlamydia infections in adults.1 We previously reported that several quinolones, including ofloxacin, levofloxacin, grepafloxin, sparfloxacin, trovafloxacin and moxifloxacin have significant activity against C. pneumoniae in vitro.4–7 We tested a new 8-methoxyquinolone, gatifloxacin, for activity against C. trachomatis and C. pneumoniae in comparison with ofloxacin and erythromycin.

Materials and methods

Gatifloxacin (Bristol Myers Squibb, Wallingford, CT, USA), ofloxacin (Ortho Pharmaceuticals, Raritan, NJ, USA) and erythromycin were supplied as powders and solubilized according to instructions from the manufacturers. Five strains of C. trachomatis were tested, E Bour (ATCC VR-3483), FIC-CAL-3 (ATCC VR-346), H UW-43/CX, (ATCC VR-879), J UW-36/CX (ATCC VR-885) and L434Bu (ATCC VR-902B). All were obtained from the ATCC. Twenty strains of C. pneumoniae were tested: TW183 and AR39 (Washington Research Foundation, Seattle, WA, USA), 10 clinical isolates from Brooklyn, T2023 (ATCC VR1356), T2043 (ATCC VR1355), T2337, T2219, B A L 14, B A L 15, B A L 16, B A L 37, B A L 48, B A L 62, a clinical isolate from Japan, J-21 (ATCC VR1435), CDC C8 from Atlanta, W6805 from Wisconsin and five isolates from a multicentre pneumonia treatment study (379CBD, 327JM, 40D EF, 473GE T, 284LJ).

Susceptibility testing of C. trachomatis and C. pneumoniae was performed in cell culture using HEp-2 cells. Gatifloxacin was slightly less active against C. trachomatis and slightly more active against C. pneumoniae than ofloxacin, with MICs at which 90% of the isolates had no inclusions and minimal chlamydial concentrations at which 90% of the isolates had no inclusions after passage of 0.25 mg/L. Gatifloxacin was less active than erythromycin for both species.
tested gatifloxacin against three strains of C. pneumoniae. Based on its in-vitro activities of five quinolones against C. pneumoniae, gatifloxacin should have equivalent efficacy to ofloxacin for treatment of C. trachomatis infections.

There are no published studies that have assessed the efficacy of any quinolone for the treatment of C. pneumoniae infection that have utilized culture.\textsuperscript{4,5} The diagnosis was based on serology alone, thus microbiological efficacy could not be assessed. We treated three patients with culture documented C. pneumoniae infection (bronchitis and pneumonia) with grepafloxacin. Although grepafloxacin has an MIC\textsubscript{90} and MBC\textsubscript{90} of 0.5 mg/L against C. pneumoniae, two of three patients remained culture-positive and symptomatic despite 2 weeks of treatment with the drug.\textsuperscript{7}

Prospective studies of gatifloxacin for the treatment of genital chlamydia infections and community-acquired pneumonia utilizing culture of C. trachomatis and C. pneumoniae will determine the role of gatifloxacin in the treatment of these infections.

### References


Received 11 October 1998; returned 22 February 1999; revised 18 March 1999; accepted 23 May 1999