ABSTRACT

BC-3781 is an investigational semisynthetic pleuromutilin derivative, which inhibits ribosomal synthesis. BC-3781 broth microdilution and disk diffusion tests against CA-RTI pathogens indicated low-level resistance to penicillin, which is consistent with penicillin-susceptible (MIC ≤ 0.0003-0.0006 µg/mL), intermediate (MIC 0.001-0.04 µg/mL) and -resistant (MIC >0.04 µg/mL) categories of β-lactam resistance. The dominant bacterial causes of CA-RTI in the USA and various European countries is C. pneumoniae. We evaluated the activity of BC-3781 against C. pneumoniae and other pathogens causing CA-RTI.

MATERIALS AND METHODS

BC-3781 was tested against 316 strains of C. pneumoniae obtained from commercial laboratories in the USA and various European countries. The strains were classified according to their β-lactamase production status. C. pneumoniae susceptibility was determined by broth microdilution and disk diffusion methods and compared with other antimicrobial classes. The results were evaluated by the CLSI and EUCAST methods.

RESULTS

Resistance to macrolides, clindamycin and β-lactamase-positive pathogens were decreased in C. pneumoniae isolates compared with other CA-RTI pathogens. C. pneumoniae MIC values increased in the presence of clindamycin, but not penicillin. Among the penicillin-resistant (MIC >0.12 µg/mL), C. pneumoniae isolates, 100% were susceptible to levofloxacin and all strains were susceptible to sulfamethoxazole.

CONCLUSIONS