Activity of BC-3205 When Tested against a Collection of Gram-positive Organisms Responsible for Skin and Skin Structure Infections

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Abstract

Objectives: To assess the in vitro activity for BC-3205, a novel semi-synthetic pleuromutilin, against a contemporary collection of Gram-positive cocci. Plasmamutinone bacterial cell-susceptibility testing involves the use of the 50S ribosome. BC-3205 is a semi-synthetic pleuromutilin analogue with excellent activity in vitro, nontumoral, was the first approved for human use as a topical antimicrobial agent to treat skin infections.

Materials and Methods: Over 600 unique contemporary isolates of Gram-positive organisms tested for susceptibility to BC-3205 were included in the study. These isolates were divided into species/genus groups as follows: North America (USA; 51.0 %), Europe (48.5 %), Asia-Pacific (6.1 %), and Latin America (0.3 %). The MIC range for BC-3205 was 0.015–0.12 mg/l. These strains were tested against 827 Gram-positive cocci using broth microdilution (BMD) on cation-adjusted Mueller-Hinton broth (CAMHB).

Results: BC-3205 was very active against SA (MIC 50, 0.12 mg/l; 94.0 % susceptible; Table 1 and 2). BC-3205 showed potent activity against SA (MIC range, 0.03–16 mg/l; 91.0 % susceptible; Table 1 and 2). In addition, BC-3205 and clindamycin (MIC 50, 0.03–0.12 mg/l; 91.0 % susceptible; Table 1 and 2) showed similar activity against SA. BC-3205 and clindamycin (MIC 50, 0.03–0.12 mg/l; 91.0 % susceptible; Table 1 and 2) showed similar activity against SA. BC-3205 and clindamycin (MIC 50, 0.03–0.12 mg/l; 91.0 % susceptible; Table 1 and 2) showed similar activity against SA. BC-3205 and clindamycin (MIC 50, 0.03–0.12 mg/l; 91.0 % susceptible; Table 1 and 2) showed similar activity against SA. BC-3205 and clindamycin (MIC 50, 0.03–0.12 mg/l; 91.0 % susceptible; Table 1 and 2) showed similar activity against SA. 

Conclusions: BC-3205 was very active against SA and showed similar activity against methicillin-resistant SA (MRSA) and MRSA strains. Azithromycin, clindamycin, and trimethoprim/sulfamethoxazole (TMP/SMX) showed significantly greater activity than BC-3205. BC-3205 was the only agent that exhibited activity against E. faecalis (MIC 50/90, 0.12/4 mg/l) strains exhibiting BC-3205 MIC values were eight- to 16-fold more active than vancomycin (MIC 50, 1 mg/l; data not shown). In addition, BC-3205 activity against CoNS was similar to that against MRSA (MIC 50/90, 0.12/0.25 mg/l) and MRSA isolates (MIC 50/90, 0.12/0.25 mg/l). The highest BC-3205 MIC value was 0.25 mg/l. The MIC range for BC-3205 was 0.015–0.12 mg/l. These strains were tested against 827 Gram-positive cocci using broth microdilution (BMD) on cation-adjusted Mueller-Hinton broth (CAMHB).

Methods

Susceptibility testing: A. MIC values for pathogens were determined using the reference CLSI broth microdilution method as described in M07-A9 (2009). B. BC-3205 activity against CoNS was similar to that against MRSA (MIC 50/90, 0.12/0.25 mg/l) and MRSA isolates (MIC 50/90, 0.12/0.25 mg/l). The highest BC-3205 MIC value was 0.25 mg/l. C. Quality control (QC) strains and intermediate criteria for both MIC and zone diameter tests were evaluated against BC-3205. D. Quality control (QC) strains and intermediate criteria for both MIC and zone diameter tests were evaluated against BC-3205.

References