P1625

Abstract (poster session)

Activity of ceftobiprole tested against pathogens associated with hospital-acquired bacterial pneumonia in Europe

R.K. Flamm*, H.S. Sader, J.M. Streit, R.N. Jones (North Liberty, US)

Objective: To evaluate the activity of ceftobiprole (BPR) and comparator agents against pathogens associated with hospital-acquired bacterial pneumonia (HABP) from European patients. Ceftobiprole medocaril is a broad-spectrum, anti-MRSA cephalosporin with activity against Gram-negative pathogens including Pseudomonas aeruginosa. It has been studied in hospitalized community-acquired bacterial pneumonia, hospital-acquired bacterial pneumonia, and acute bacterial skin and skin structure infections. Methods: Non-duplicate, clinically relevant pathogens associated with HABP were prospectively collected from European patients from 33 European medical centres (2008-2010). CLSI reference broth microdilution susceptibility (S) testing was performed for BPR and comparator agents. CLSI and EUCAST interpretive criteria were applied according to current guidelines. Results: There were 253 Staphylococcus aureus (SA); 39.9% MRSA. The MIC50/90 values for MRSA and methicillin-susceptible S. aureus (MSSA) were 1/2 and 0.5/0.5 mg/L, respectively. A total of 99.6% of all SA had a MIC value at <=2 mg/L; one MRSA isolate had a MIC value of 4 mg/L. The highest MIC value for MSSA was only 1 mg/L. BPR was highly potent against all 21 S. pneumoniae (SPN) isolates with a MIC range of <=0.06-1 mg/L and MIC50/90 at 0.25/0.5 mg/L. BPR was more active against penicillin-susceptible (Pen-S; MIC, <= 0.06 mg/L) than penicillin -resistant (Pen-R; MIC >= 2 mg/L) isolates with MIC50 values of <=0.06 and 0.5 mg/L, respectively. BPR was four-fold more active than ceftriaxone (MIC50/90, 1/2 mg/L) and two-fold more active than cefepime (MIC50/90, 1/1 mg/L). A total of 41.7% of Pen-R SPN strains and 23.8% of all SPN were non-S to ceftriaxone. A total of 78.0, 79.3, and 80.4% of all Enterobacteriaceae (ENT) were at a BPR MIC value of <= 1, 2, and 4 mg/L, respectively. As expected, BPR was poorly active against ESBL-positive phenotype strains of ENT. However, it was highly active against non-ESBL phenotype E. coli with MIC50/90 values at <=0.06/0.12 mg/L. The activity of BPR against P. aeruginosa was similar to that of ceftazidime and cefepime with MIC50/90 values of 4/>16 mg/L for all three antimicrobials. Conclusions: The potency and broad-spectrum activity exhibited by BPR against leading pathogens associated with HABP in European patients suggests a potential role in the treatment of HABP, including those caused by MRSA, Pen-R SPN, ENT and P. aeruginosa.