

P1588

Poster Session VI

Resistance surveillance: Gram-positives and others

ACTIVITY OF CEFTAROLINE AND COMPARATORS AGAINST STREPTOCOCCUS PNEUMONIAE FROM MULTIPLE SPECIMEN SOURCES IN THE EUROPEAN REGION 2012: ASSESSING ANTIMICROBIAL WORLDWIDE ANTIMICROBIAL RESISTANCE EVALUATION (AWARE) PROGRAMME

D. Hoban¹, R. Badal¹, D. Biedenbach¹, M. Hackel¹, S. Bouchillon¹, J. Ambler²

¹Mirobiology, IHMA Inc., Schaumburg, USA ; ²Mirobiology, AstraZeneca Pharmaceuticals, Waltham, USA

Objectives: *Streptococcus pneumoniae* (SP) remains a significant pathogen isolated from many infectious processes. Increasing penicillin, macrolide and cephalosporin resistance in SP increases the need for new effective antimicrobials. Ceftaroline, the active metabolite of ceftaroline fosamil, is a cephalosporin with in vitro activity against Gram-positive pathogens and common Gram-negative pathogens. The in vitro activity of ceftaroline and comparators against SP including resistant strains isolated across the European region in 2012 from the AWARE programme are reported.

Methods: 62 medical centers in 17 European countries (Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Portugal, Romania, Russia, Spain, Sweden, Netherlands, Turkey and United Kingdom) collected 815 SP isolates from multiple specimen sources. MICs were performed as specified by CLSI using prepared broth microdilution panels and interpreted according to EUCAST guidelines and breakpoints.

Results: The *in vitro* activity of ceftaroline and 7 comparator agents are shown in the table.

Drugs	% Susceptible/MIC ₉₀ (mg/L)					
	All SP	PSSP	PISP	PRSP	MRSP	CROSP
Isolate #	815	556	206	53	228	17
CPT	99.1/0.12	100/0.008	100/0.12	86.8/0.5	96.9/0.12	58.8/0.5
CRO	85.4/1	99.8/0.03	68.5/2	0/>4	59.7/2	0/>4
CLI	80.5/>1	93.0/0.06	59.7/>1	30.1/>1	35.1/>1	41.2/>1
ERY	71.4/>1	89.0/1	37.9/>1	17.0/>1	0/>1	11.8/>1
LVX	99.3/1	100/1	97.1/1	100/1	98.3/1	100/1
LZD	100/1	100/1	100/1	100/1	100/1	100/2
MXF	99.4/0.25	100/0.25	98.1/0.25	98.1/0.25	97.8/0.25	100/0.25
PEN	68.2/2	100/0.03	0/2	0/>8	25.0/4	0/>8

CPT ceftaroline, CRO ceftriaxone, CLI clindamycin, ERY erythromycin, LVX levofloxacin, LZD linezolid, MXF moxifloxacin, PEN penicillin

ALL SP: All *S. pneumoniae*, PSSP: penicillin-susceptible SP (penicillin MIC≤0.06 mg/L), PISP: penicillin-intermediate SP (penicillin MIC=0.12-2 mg/L), PRSP: penicillin-resistant SP (penicillin MIC>2mg/L), MRSP: macrolide-resistant SP (erythromycin MIC >0.5mg/L), CROSP: ceftriaxone-resistant SP (ceftriaxone MIC>2mg/L).

Conclusions: Ceftaroline demonstrated excellent in vitro activity against SP with percent susceptible =>99% for penicillin-susceptible and intermediate strains. Activity was reduced for penicillin- (86.8%) and ceftriaxone-resistant (58.8%) strains. Overall, the susceptibility of SP to ceftaroline was comparable to levofloxacin and moxifloxacin at their respective EUCAST breakpoints.