P1449

Abstract (poster session)

Antimicrobial activity of PTK 0796 (omadacycline) and comparator agents against contemporary pathogens commonly associated with community-acquired respiratory tract infections collected during 2011 from the European Union

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Objectives: To determine the activity of PTK 0796 (omadacycline) and comparator agents against recent (2011) Streptococcus pneumoniae (SPN), Haemophilus influenzae (HI), and Moraxella catarrhalis (MCAT) isolated in the European Union (EU). PTK 0796 is a novel aminomethylcycline which is currently under clinical development for both intravenous and oral formulations. It has excellent activity against pathogens from the respiratory tract and overcomes tetracycline resistance. Methods: Susceptibility (S) testing for omadacycline and commonly used antimicrobials was performed by Clinical and Laboratory Standards Institute (CLSI) broth microdilution methodology on a total of 1,025 isolates in 2011 from medical centers in the SENTRY Antimicrobial Surveillance Program platform in the EU. S interpretations were performed using CLSI and EUCAST guidelines. Results: PTK 0796 was very active against SPN independent of S to penicillin (PEN; MIC50/90, 0.06/0.06 mg/L for PEN-S and -resistant [R] strains). PTK 0796 was 16-fold more active than levofloxacin (MIC50/90, 1/1 mg/L) and ceftriaxone (MIC90, 1 mg/L) against SPN. SPN showed high R rates to erythromycin (S, 60.7%) and tetracycline (S, 69.2% CLSI/68.9% EUCAST) even though all isolates had PTK 0796 MIC values <=0.25 mg/L. PTK 0796 against HI (13.9% beta-lactamase positive) and MCAT (98.5% beta-lactamase positive) exhibited low MIC values (Table) independent of beta-lactamase production. Conclusions: PTK 0796 was very active against SPN, regardless of PEN-S status, with MIC50/90 value of 0.06/0.06 mg/L and no MIC value greater than 0.25 mg/L. PTK 0796 was also very active against M. catarrhalis (MIC50/90, 0.12/0.12 mg/L) and H. influenzae (MIC50/90, 0.5/1 mg/L) with activity independent of beta-lactamase status.

	Organism (no. tested)		
	SPN (601)	**HI (359)**	**MCAT (65)**
PTK 0796			
$MIC_{50/90}$[a]	0.06 / 0.06	0.5 / 1	0.12 / 0.12
Ceftriaxone			
$MIC_{50/90}$[a]	≤0.06 / 1	≤0.06 / ≤0.06	0.25 / 0.5
%S[b]	91.9 (73.0)	100.0 (100.0)	100.0 (98.5)
Erythromycin			
$MIC_{50/90}$[a]	≤0.12 / >16	NT[e]	NT[e]
%S[b]	60.7 (60.7)	NT[e]	NT[e]
Levofloxacin			
$MIC_{50/90}$[a]	1 / 1	≤0.12 / ≤0.12	≤0.12 / ≤0.12
%S[b]	98.7 (98.7)	100.0 (100.0)	100.0 (100.0)
Tigecycline			
$MIC_{50/90}$[a]	≤0.03/0.06	0.25/0.5	0.06/0.06
%S[c]	100.0 (IE)[d]	87.2 (IE)[d]	- (IE)[d]

a. MIC values in mg/L; b. Categorized by CLSI breakpoints and in parentheses by EUCAST breakpoints; c. categorized by USA drug package insert breakpoints and in parentheses by EUCAST breakpoints; d. IE= insufficient evidence to determine breakpoint; e. NT= not tested