P1450

Abstract (poster session)

Antimicrobial activity of PTK 0796 (omadacycline) tested against Gram-positive organisms isolated from European hospitals in 2011

H. Sader*, R. Flamm, R. Jones (North Liberty, US)

Objective: To evaluate the activity of PTK 0796 (PTK) against Gram-positive (GP) cocci causing infections in European (EU) hospitals. PTK (7-dimethylamino, 9-(2,2-dimethyl-propyl)-aminomethylcycline) is a novel antibacterial agent of the tetracycline family, which is under clinical development (IV and oral formulations). Methods: 2379 strains from 25 medical centers in 10 EU countries, Turkey and Israel were collected in 2011 and tested for susceptibility (S) against PTK, tigecycline (TIG) and many other comparators by CLSI broth microdilution methods. MIC results were interpreted according to EUCAST and CLSI breakpoint criteria. The isolates were collected mainly from skin/skin structure infections, bacteremia and pneumonia, and include S. aureus (1,576; 27.4% oxacillin-resistant [MRSA]), coagulase-negative staphylococci (CoNS; 344, 71.5% oxacillin-resistant [R]), E. faecalis (EF; 270; 0.7% vancomycin [VAN]-R [MIC, >=8 mg/L]), E. faecium (EFM; 156; 23.7% VAN-R), beta-haemolytic streptococci (BHS; 245) and viridans group streptococci (VGS; 132). Results: PTK was very active against oxacillin-S S. aureus (MSSA) and MRSA with a MIC90 of 0.12 and 0.25 mg/L respectively (see Table). PTK activity against S. aureus was eight-fold greater than linezolid and VAN, two-fold greater than daptomycin and similar to TIG. MRSA rates varied from 1.0% in Sweden to 61.5% in Portugal (27.4% overall). The highest PTK MIC value among S. aureus was only 2 mg/L and >99% of strains were inhibited at PTK MIC of <=0.25 mg/L. CoNS exhibited slightly higher PTK MICs (MIC50/90, 0.12/1 mg/L) compared to S. aureus, with a bimodal distribution. EF (MIC50/90, 0.12/0.25 mg/L) and EFM (MIC50/90, 0.06/0.12 mg/L) were very S to PTK and VAN R did not adversely affect PTK activity against enterococci. VAN-R EFM was detected in 10 of 12 countries, while VAN-R EF was observed only in Germany and Italy (one strain each). BHS and VGS exhibited very low PTK MIC values (MIC50/90, 0.06/0.12 mg/L for all groups). Conclusions: PTK demonstrated potent activity against a large collection of contemporary (2011) GP clinical isolates. Its activity was similar to that of TIG and was not affected by R to other antimicrobial classes.

Organism	No. of isolates (cumulative %) with PTK 0796 MIC of:						
(no. tested)	≤0.03	0.06	0.12	0.25	0.5	1	2
S. aureus (1576)	13(0.8)	237(15.9)	1192(92.0)	121(99.7)	3(99.9)	1(99.9)	1(100.0)
MSSA (1140)	8(0.7)	183(16.8)	878(93.8)	68(99.7)	3(100.0)	-	-
MRSA (432)	5(1.2)	54(13.7)	318(87.3)	53(99.5)	0(99.5)	1(99.8)	1(100.0)
CoNS (344)	23(6.7)	117(40.7)	58(57.6)	34(67.4)	73(88.7)	37(99.4)	2(100.0)
E. faecalis (270)	25(9.3)	103(47.4)	94(82.2)	46(99.3)	1(99.6)	1(100.0)	-
E. faecium (156)	21(13.5)	105(80.8)	27(98.1)	3(100.0)	-	-	-
VAN-S (119)	19(16.0)	81(84.0)	16(97.5)	3(100.0)	-	-	-
VAN-R (37)	2(5.4)	24(70.3)	11(100.0)	-	-	-	-
BHS (245)	56(22.9)	124(73.5)	50(93.9)	14(99.6)	1(100.0)	-	-
VGS (132)	32(24.2)	67(75.0)	23(92.4)	8(98.5)	1(99.2)	1(100.0)	-