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Poster Session VI
Resistance surveillance: Gram-positives and others

PREVALENCE OF SCCMEC TYPES AND SOLITHROMYCIN SUSCEPTIBILITY OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) FROM RESPIRATORY SAMPLES COLLECTED IN 2012-13.

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Objectives: Solithromycin is a fourth generation macrolide, the first fluoroketolide being developed in oral and intravenous formulations, that is currently undergoing Phase III clinical development for the treatment of community-acquired bacterial pneumonia. This study evaluated the prevalence of SCC*mec* types associated with MRSA causing respiratory infections in 2012-13 and the *in vitro* activity of solithromycin (SOL) and comparators against these isolates.

Methods: A total of 412 respiratory MRSA were evaluated from Europe (175), North America (169), Asia-pacific (24) and the rest of the world (44). MRSA were re-identified in a central laboratory and SCC*mec* type determined by PCR [Milheirico *et al Antimicrob Agents Chemother* 2007 51:3374]. MIC for solithromycin and comparators was determined by CLSI broth microdilution methodology.

Results: The most common SCC*mec* was IV (199 MRSA, 48.3%), followed by II (112, 27.2%), III (52, 12.6%), I (37, 9.0%) and V (3, 0.7%). Nine MRSA (2.2%) were novel SCC*mec* types. MIC_{50} for azithromycin (AZI), levofloxacin (LFX), SOL, trimethoprim-sulfamethoxazole (SXT) and tigecycline (TGC) against the major SCC*mec* types are shown in the Table. AZI and LFX were inactive against all MRSA irrespective of SCC*mec*. SXT and TGC were equally active against all MRSA. SOL was active against the most common SCC*mec* type IV and type III but not I or II.

SCC*mec* type	MIC_{50} (mg/L):				
	SOL	AZI	LFX	SXT	TGC
All (412)	16	>4	>2	<=0.5	0.25
IV (199)	0.12	>4	>2	<=0.5	0.12
II (112)	>32	>4	>2	<=0.5	0.25
III (52)	0.12	>4	>2	<=0.5	0.25
I (37)	>32	>4	>2	<=0.5	0.25

Conclusions: As SCC*mec* IV is linked with community-associated isolates of MRSA, whereas types I and II are associated with hospital-acquired MRSA, these data suggest that solithromycin may be suitable for the treatment of community-associated respiratory infections caused by MRSA.