

Activity of Solithromycin and comparators against Streptococci isolated from Respiratory Samples Collected in 2012

ECCMID 2014 – P1584

Ian Morrissey¹, Prabhavathi Fernandes², Barbara Lemos¹, Stephen P. Hawser¹

¹IHMA Europe, Sàrl, Epalinges, Switzerland.

²Cempra Inc., Chapel Hill, North Carolina, USA

Background: Solithromycin is a fourth-generation macrolide, the first fluoroketolide, that is under development in oral and intravenous formulations in Phase III clinical trials for the treatment of moderate to moderately–severe community-acquired bacterial pneumonia. This study evaluated the *in vitro* activity of solithromycin against respiratory streptococcal isolates collected in Europe, Asia-Pacific and North America during 2012-2013.

Methods: A total of 1,072 streptococci, 927 *S. pneumoniae* and 145 *S. pyogenes*, were collected from Europe, Asia-Pacific and North America. Isolates were tested in a central laboratory with MIC and susceptibility for solithromycin and comparators determined according to CLSI broth microdilution methodology and breakpoints.

Results: MIC₉₀ (mg/L) and percent susceptible (%S) data are shown in the Table:

<i>S. pneumoniae</i>		SOL	A/C	AZT	CTX	CLI	ERY	LVX	MOX	PEN	TEL	VAN
Europe (n=418)	MIC ₉₀	0.06	2	>1	1	>0.5	>0.5	2	0.25	2	0.12	0.5
	%S	NB	90	71	92	77	72	97	98	63	100	100
Asia-Pacific (129)	MIC ₉₀	0.5	4	>1	2	>0.5	>0.5	2	0.25	4	0.5	0.5
	%S	NB	85	29	77	42	29	98	99	51	99	100
North America (380)	MIC ₉₀	0.25	2	>1	1	>0.5	>0.5	1	0.25	2	0.5	0.5
	%S	NB	90	56	91	80	57	100	100	59	99	100
<i>S. pyogenes</i>		SOL	A/C	AZT	CTX	CLI	ERY	LVX	MOX	PEN	TEL	VAN
Europe (84)	MIC ₉₀	0.03	0.03	1	0.03	0.06	>0.5	2	0.25	≤0.06	0.06	0.5
	%S	NB	NB	88	99	95	89	100	NB	99	NB	99
Asia-Pacific (24)	MIC ₉₀	0.5	0.03	>1	0.03	>0.5	>0.5	2	0.25	≤0.06	>2	0.5
	%S	NB	NB	33	100	54	33	96	NB	100	NB	100
North America (37)	MIC ₉₀	0.06	0.03	>1	0.03	0.12	>0.5	2	0.5	≤0.06	0.03	0.5
	%S	NB	NB	84	100	97	81	97	NB	95	NB	100

A/C, amoxicillin/clavulanic acid; AZT, azithromycin; CTX, ceftriaxone; CLI, clindamycin; ERY, erythromycin; LVX, levofloxacin; MOX, moxifloxacin; PEN, penicillin; SOL, solithromycin; TEL, telithromycin; VAN, vancomycin; NB, no breakpoints available

Conclusions: Solithromycin showed very good activity against isolates from the different regions with MIC₉₀ ranging from 0.06-0.5 mg/L to 0.03-0.5 mg/L, for pneumococci and *S. pyogenes*, respectively. These data positively support the continued development of solithromycin for the treatment of respiratory infections caused by streptococci.