

Comparative activities of the novel ketolide CEM-101 and telithromycin (TEL) towards *Streptococcus pneumoniae* (SP) resistant to macrolides (ML) from patients with confirmed community-acquired pneumonia (CAP)

Abstract P1099

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Background and aims:

CEM-101 is a new fluoroketolide in development with activity against macrolide (ML)-resistant isolates. A dose of 400 mg qD yields an AUC_{24h} similar to that of telithromycin (TEL) 800 mg qD and shows similar protein binding properties in human serum (about 15% free drug). Belgium is a country with high resistance of SP to ML (> 35% for clarithromycin). Our aim was to compare the activity of CEM-101 to that of TEL against ML-resistant strains of SP obtained from patients with confirmed CAP.

Methods:

29 first ML-R isolates (based on clarithromycin MICs determination; 19 MLS_B, 10 M-phenotype based on erythromycin and clindamycin resistance dissociation) were selected (for which 6 were TEL-I and 7 TEL-R based on EUCAST breakpoints [S ≤ 0.25 – R > 0.5]). MICs were determined by geometric microdilution in CAMH broth + 2.5% lysed horse blood according to CLSI, using SP ATCC-49619 as a control.

Results:

ATCC-49619 MICs were ≤ 0.008 mg/L for TEL and CEM-101. Data for ML-resistant isolates are shown in the Table.

Phenotype*	No.	TEL			CEM-101		
		range	geom. mean	MIC ₉₀	range	geom. mean	MIC ₉₀
TEL-S	16	0.008-0.25	0.021	0.25	0.008-0.063	0.022	0.063
TEL-I	6	0.5-0.5	0.5	0.5	0.063-0.5	0.223	0.5
TEL-R	7	1-3	1.426	3.0	0.5-1.0	0.906	1.0

* MLS_B for 7/16 of TEL-S, 5/6 of TEL-I, and 7/7 of TEL-R isolates
(S / I / R are defined based on EUCAST breakpoints (S ≤ 0.25 – R > 0.5))

Conclusions:

In this Belgian collection of *S. pneumoniae* from confirmed CAP resistant to macrolides, CEM-101 shows globally lower MICs compared to TEL, especially with respect to TEL-I and TEL-R isolates. CEM-101, therefore, has the potential to stand as an alternative to telithromycin in areas with high ML resistance and emerging resistance to TEL.