Activity of Solithromycin (SOL) against *S. pneumoniae* (SP) clinical strains with non-susceptibility (NS) or resistance (R) [EUCAST interpretative criteria] to penicillin G (PEN), amoxicillin (AMX), ceftriaxone (CRO), moxifloxacin (MXF), levofloxacin (LVX) and ceftaroline (CPT)

ICAAC 2013
Abstract A1021

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Background: SOL (also known as CEM-101) is a fluoroketolide active against macrolide-resistant SP and presently in phase 3 trial in community-acquired bacterial pneumonia (CABP). Our aim was to assess its vitro activity against RTI clinical SP isolates for which beta-lactams and fluoroquinolones can no longer be used.

Methods: Two large collections of non-duplicate RTI SP isolates from Belgium and Germany were screened based on potential patient's risk for harboring beta-lactam- and fluoroquinolone-resistant strains. MICs for 426 isolates were measured by broth microdilution. Focusing on NS and R isolates, cross-resistance wit SOL was assessed by linear fit, bivariate normal ellipse analysis (0.90 overlap), and quantile density contour coincidence (QDCI; 0.1 to 0.9) using JMP software (version 10.0.2).

Results: The Table shown in the Results section of the poster shows (a) the MICs (min., geomean, 90 % and max.) of SOL, PEN, AMX, CRO, MXF, LVX and CPT for all isolates and (b) the pertinent results for strains NS or R to these antibiotics (EUCAST breakpoints) and the correlation parameters with the MICs of SOL for the corresponding isolates. 90 % ellipses were very wide (> 6 dilutions for minor axis [conjugate diameter]) and QDCI did not show evidence for high level MICs for SOL in strains with MICs > EUCAST NS or R breakpoints for other antibiotics.

Conclusions: SOL maintains low MICs for clinical SP isolates with NS and R phenotype to currently used or recently approved antibiotics for treatment of CABP with no statistically-significant correlation (except for MXF and, to some extent, for PEN, but note the low alpha parameter). SOL may, therefore, stand as a potentially useful alternative in environments where these antibiotics can no longer be recommended**.**

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