

Activity of Solithromycin and Comparators against *Streptococcus pneumoniae* isolated from Respiratory Samples Collected from Pediatric, Adult and Elderly Patients in 2012-2013

ICAAC 2014

Abstract C-1473

Ian Morrissey¹, Prabhavathi Fernandes², Kara Keedy², 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, undergoing Phase III clinical trials for the treatment of moderate to moderately-severe community-acquired bacterial pneumonia (CABP). This study evaluated the *in vitro* activity of solithromycin against *Streptococcus pneumoniae* (SP) collected in 2012-2013 from patients of varying age groups.

Methods: A total of 996 SP isolated from respiratory samples were collected from Europe, Asia-Pacific, North America and other locations world-wide. Isolates were tested in a central laboratory with MIC and susceptibility for solithromycin and comparators determined according to CLSI broth microdilution methodology and breakpoints. Provisional breakpoints of ≤ 1 (S), 2 (I) & ≥ 4 (R) were used for solithromycin and FDA breakpoints for tigecycline. Differences in % susceptibility (%S) by age group were evaluated for statistical significance with the Fisher Exact Test.

Results: %S by age group (pediatric <12 years old; adult 12 to 64 years old & elderly >64 years old) are shown in the Table (>90 %S in bold). Ceftriaxone activity, was significantly lower in pediatrics than compared with adults or elderly (p-value 0.036 & 0.017, respectively). Other agents showed no or only slight differences in activity between age groups.

Drug (%S)	Pediatric (n=161)	Adult (n=509)	Elderly (n=326)
Solithromycin	100	100	100
Telithromycin	100	99.6	99.1
Penicillin (oral bp)	59.6	58.0	62.0
Azithromycin	63.4	58.4	59.2
Amoxicillin Clavulanic Acid	85.1	89.8	89.9
Ceftriaxone*	83.2	89.6	90.8
Clindamycin	73.9	74.7	70.6
Levofloxacin	98.1	98.6	98.8
Tigecycline	100	99.6	100

*significant difference between age groups

Conclusions: Solithromycin showed very good activity against isolates from all age groups. These data positively support the continued development of solithromycin for the treatment of respiratory infections caused by SP.