

P1078

Poster Session IV

Resistance surveillance in Gram-negatives

STABILITY OF PSEUDOMONAS AERUGINOSA ANTIMICROBIAL SUSCEPTIBILITY: SMART 2008-2012

R. Badal¹, S. Lob², S. Bouchillon², M. Hackel², I. Morrissey³, S. Hawser⁴

¹Business Development, International Health Management Associates Inc., Schaumburg, USA ;

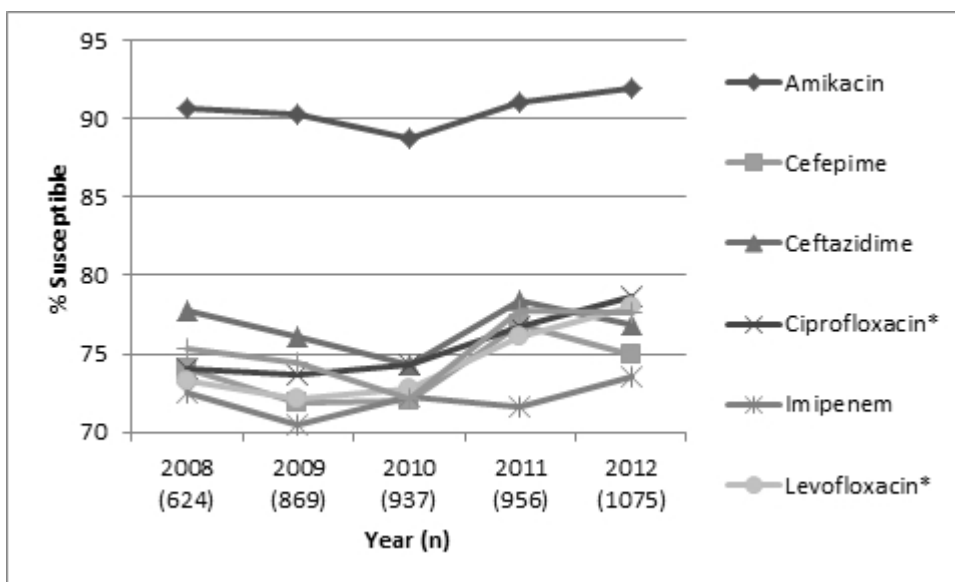
²Laboratory, International Health Management Associates Inc., Schaumburg, USA ; ³Business

Development, IHMA Europe Sarl, Epalinges, Switzerland ; ⁴Laboratory, IHMA Europe Sarl, Epalinges, Switzerland

Objectives: *P. aeruginosa* remains a key pathogen of intra-abdominal infections (IAI), representing approximately 10% of aerobic Gram-negative pathogens found in IAI. *P. aeruginosa* has been somewhat refractory to antimicrobial therapy, with almost no drugs inhibiting >90% of isolates. This report from the Study for Monitoring Antimicrobial Resistance Trends (SMART) evaluates the global susceptibility trends of *P. aeruginosa* from IAI from 2008-2012.

Methods: Each participating laboratory collected up to 100 consecutive Gram-negative isolates from IAI each year; only countries contributing isolates each year 2008-2012 were included in this analysis. Susceptibility was determined and categorized using the CLSI broth microdilution method and breakpoints. Trends in susceptibility were assessed using the Cochran-Armitage test.

Results: Susceptibility trends of 4,461 *P. aeruginosa* collected from the 29 countries participating each year of the study are shown in the table below; drugs with significant change ($p < 0.05$) over five years are asterisked.



Conclusions: Only ciprofloxacin and levofloxacin showed statistically significant change, with both demonstrating increasing susceptibility over the course of the study; however, the clinical significance of the relatively small changes in percent susceptible is dubious. Although SMART does not collect drug usage data, and therefore cannot correlate ertapenem use with susceptibility to, or use of, other drugs, published studies suggest that increased use of ertapenem (with resulting diminished use of imipenem, fluoroquinolones, and other agents) does not adversely affect susceptibility to imipenem, and may in fact contribute to increasing susceptibility of *P. aeruginosa* to imipenem and fluoroquinolones. The stable—or even increasing--susceptibility rates reported here may support those published findings, although other undetermined factors probably also contributed to these trends. Whatever the reasons, global susceptibility levels of *P. aeruginosa* in IAI have remained largely unchanged over the past five

years.