**INTRODUCTION**

- Pneumonia is a major cause of morbidity and mortality in adults and children around the world, with an estimated 1 million adult deaths each year in Asia. In Latin America (LA), high incidences of community-acquired bacterial pneumonia (CABP) and high mortality rates have been reported for Europe or the United States.
- The etiology of pneumonia in Asia and LA is similar to that reported in the West, though Gram-negative bacteria such as *Pseudomonas aeruginosa* and *Mycobacterium tuberculosis* play a more important role in Asia. Still, *Streptococcus pneumoniae* remains the most common isolated bacterial pathogen from CABP; other bacterial causes of CABP include *Staphylococcus aureus*, *Moraxella catarrhalis*, and *Staphylococcus* aureus as well as atypical pathogens, such as *Legionella pneumophila*, *Mycoplasma pneumoniae*, and *Chlamydia pneumoniae*.
- Although there are variations by major geographic regions, antibacterial resistance rates are rising in many Asia-Pacific (APAC) and LA countries, complicating treatment, increasing the severity of the disease, and often prolonging hospital stays.

**METHODS**

- Unique isolates (n=1019) of *S. pneumoniae*, *S. aureus*, H. influenzae, and *M. catarrhalis* were collected from patients with pneumonia and community-acquired pneumonia during 2016 and 2017 in 5 countries (Korea, Malaysia, Singapore, Taiwan, Thailand) in LA (n=532).
- S. aureus isolates were tested by Clinical and Laboratory Standards Institute (CLSI) broth microdilution methods, and susceptibility was determined using CLSI (2018) breakpoints.

**RESULTS**

**H. influenzae**

- Lefamulin demonstrated activity against H. influenzae in APAC and LA (MIC ≤0.12 µg/mL). Using meningitis breakpoints, *H. influenzae* isolates were susceptible (98.0%) to most comparators, but resistance rates of 35.6% and 38.5% were reported for ampicillin and trimethoprim-sulfamethoxazole, respectively (Table 2).

**M. catarrhalis**

- 100% of *M. catarrhalis* isolates from APAC and LA were inhibited at MIC ≤0.25 µg/mL. Using meningitis breakpoints, *M. catarrhalis* isolates were susceptible (95%) to all comparators, except for cefoxitin (92%).

**S. aureus**

- Lefamulin was highly active against *S. aureus* in APAC and LA (MIC ≤0.25 µg/mL). Using oral breakpoints, 100% of *S. aureus* isolates were susceptible (98.0%) to most comparators, but resistance rates for oxacillin (100%), azithromycin (63.5%), levofloxacin (62.2%), clindamycin (73.0%), and trimethoprim-sulfamethoxazole (67.1%) were reported.

**S. pneumoniae**

- Lefamulin was highly active against *S. pneumoniae* in APAC and LA (MIC ≤0.25 µg/mL). Using oral breakpoints, 90% of *S. pneumoniae* isolates were susceptible (90%) to most comparators, but resistance rates were reported for cefoxitin (100%), erythromycin (80%), penicillin (oral and parenteral, meningitis breakpoints), and trimethoprim-sulfamethoxazole (70%).

**CONCLUSIONS**

- Lefamulin demonstrated potent in vitro activity against pathogens that commonly cause CABP and that were collected in APAC and LA in 2016 including *S. pneumoniae*, *S. aureus* (including MRSA), *H. influenzae*, and *M. catarrhalis*.
- Lefamulin’s activity was unaffected by resistance to other antibiotic classes, including macrolides, lincosamides, β-lactams, fluoroquinolones, and tetracyclines.
- Lefamulin may be an effective treatment option for CABP and warrants further development in the treatment of respiratory tract infections.