

A Multicentre surveillance study on the characteristics, bacterial aetiologies and in vitro antibiotic susceptibilities in patients with acute exacerbations of chronic bronchitis

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Abstrak

Background and objective: Antimicrobial resistance is a global problem and the prevalence is high in many Asian countries.

Methods: A prospective observational study of the prevalence of bacterial pathogens and their antimicrobial susceptibilities in patients with acute exacerbations of chronic bronchitis (AECB) was conducted in Indonesia, Philippines, Korea, Thailand, Malaysia, Taiwan and Hong Kong from August 2006 to April 2008. The diagnosis of AECB was based on increased cough and worsening of two of following: dyspnoea, increased sputum volume or purulence. Patients who had taken antibiotics within 72 h of presentation were excluded. All bacterial strains were submitted to a central laboratory for re-identification and antimicrobial susceptibility testing to 16 antimicrobial agents according to Clinical and Laboratory Standards Institute.

Results: Four hundred and seven isolates were identified among 447 patients of AECB. The most frequent organisms isolated were *Klebsiella pneumoniae* and associated species ($n = 91 + 17$), *Haemophilus influenzae* ($n = 71$), *Pseudomonas aeruginosa* ($n = 63$), *Streptococcus pneumoniae* ($n = 32$), *Acinetobacter baumannii* ($n = 22$) and *Moraxella catarrhalis* ($n = 21$). According to Clinical and Laboratory Standards Institute susceptibility breakpoints, 85.7% and >90% of these pathogens were susceptible to levofloxacin and cefepime respectively. Other options with overall lower susceptibilities include imipenem, ceftazidime, ceftriaxone and amoxicillin/clavulanate.

Conclusions: Gram-negative bacteria including *Klebsiella* spp., *P. aeruginosa* and *Acinetobacter* spp. constitute a large proportion of pathogens identified in patients with AECB in some Asian countries. Surveillance on the local prevalence and antibiotic resistance of these organisms is important in guiding appropriate choice of antimicrobials in the management of AECB.