Bacterial profile, antibiotic sensitivity and resistance of lower respiratory tract infections in Upper Egypt

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Abstract:

PURPOSE: To identify the causative bacteria, antibiotic sensitivity and resistance of lower respiratory tract infections (LRTIs) in Upper Egypt. METHODS: A multicentre prospective study was performed for 2 years. Sampling was done for all patients including, sputum and/or BAL for Gram stain and culture, and serum for serology. Samples were cultured on 3 media (Nutrient, Chocolate and MacConkey's agars). Indirect Fluorescent Antibody was used to detect atypical pathogens. RESULTS: The predominant isolates in 360 patients with CAP were S. pneumoniae (36%), C. pneumoniae (18%), M. pneumoniae (12%) and K. pneumoniae (10%). A higher sensitivity was recorded for moxifloxacin, levofloxacin, macrolides, and cefepime. A higher rate of resistance was recorded for tetracyclines, cephalosporins, lincomycin, and β-lactam-β-lactamase inhibitor. Predominant isolates in 318 patients with HAP were, MRSA (23%), K. pneumoniae (14%), E.coli (11%), P. aeruginosa (9%). A higher sensitivity was recorded for vancomycin, amikacin, and respiratory quinolones. An absolute resistance was recorded for β-lactam-β-lactamase inhibitor, high rates were recorded for cephalosporins. Predominant isolates in 376 patients with AECOPD were H. influenzae (30%), S. pneumoniae (25%), M. catarrhalis (18%), K. pneumoniae (12%) and C. pneumoniae (5%). A higher sensitivity was recorded for quinolones, macrolides and cefepime. High resistance was recorded for amikacin, clindamycin, and cephalosporins. CONCLUSION: The most predominant bacteria for CAP in Upper Egypt are S. pneumoniae and atypical organisms, while that for HAP are MRSA and Gram negative bacteria. For AECOPD, H. influenzae is the commonest. Respiratory quinolones, linezolid, and cefepime are the most efficient antibiotics in treatment of LRTIs in our locality.

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