

SURVEY OF BACTERIAL CAUSES OF LUNG INFECTION IN NON-CYSTIC FIBROSIS BRONCHIECTASIS IN THAILAND

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Abstract. Bronchiectasis can predispose patients to lung infections. In this study, the primary aim was to determine the etiology of lung infection among non-cystic fibrosis bronchiectasis patients and the secondary aim was to identify factors associated with *Pseudomonas aeruginosa* infection in order to inform empiric treatment of these patients and guide efforts to prevent *Pseudomonas aeruginosa* infection among these patients at the study hospital. We retrospectively reviewed the charts of non-cystic fibrosis bronchiectasis patients with an episode of infection who presented to Srinagarind Hospital, Khon Kaen Province, Thailand during 2011-2016. Demographic data, sputum culture results and chest radiograph results were recorded. A total of 144 patients were included in this study. The mean [$\pm$ standard deviation (SD)] age of subjects was 65 ($\pm$ 14.4) years; 57.6% male. Of the 144 subjects, 18 (12.5%) had no growth on sputum culture, 71 (49.3%) grew normal throat flora and 55 (38.2%) grew out a potential pathogen. These pathogens consisted of *Pseudomonas aeruginosa* ($n = 19$, 13.2%), *Klebsiella pneumoniae* ($n = 9$, 6.3%), *Escherichia coli* ($n = 6$, 4.2%), and *Staphylococcus aureus* ($n = 5$, 3.5%). Factors significantly associated with *Pseudomonas aeruginosa* infection were: female gender (odds ratio (OR): 7.1; 95% confident interval (CI): 1.9-26.6; $p=0.004$), having had a prior history of pulmonary tuberculosis (OR: 5.9; 95%CI: 1.4-24.2; $p=0.015$) and taking N-acetylcysteine (OR: 4.7; 95%CI: 1.1-19.4; $p=0.033$). In our study, we identified a potential pathogen in 38.2% of subjects. *P. aeruginosa* was the most common pathogen isolated and its infection was associated with female gender, prior history of pulmonary tuberculosis and use of N-acetylcysteine. These data can guide management of these subjects at the study institution.

Keywords: bronchiectasis, *Pseudomonas aeruginosa*, lung infection

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