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 [± standard deviation (SD)] age of subjects was 65 (±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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