00096 Risk Factors Associated With Hospitalization for COPD

Sim Jiong Hui Gerald[1], *Anthony Yii*[2], *Sean Loh*[2], *Augustine Tee*[2]

[1]University of New South Wales, [2]Changi General Hospital

Aims: To identify factors associated with hospitalization for exacerbation among COPD patients.

Methodology: Retrospective observational study of COPD patients followed up at CGH Specialist COPD Clinic between 2007-2017. Primary outcome was the number of hospitalizations for COPD exacerbation in the year prior to death, or 1 Jan 2018 if alive. Demographics, smoking history, symptoms, comorbidities, spirometry, sputum culture results and blood eosinophils were recorded. Univariate Poisson regression was used to identify variables associated with hospitalization for exacerbation. This was followed by modelling the number of hospitalizations in the previous year with a multivariate Poisson regression using variables found to be significant in the univariate analyses.

Result: 247 of 410 patients had complete data for analysis. Mean age was 74 +/- 10 years, 228 (92.3%) were male, mean postbronchodilator forced expiratory volume in one second (FEV1) was 61 +/- 21 % predicted, median mMRC dyspnea score was 3. Exacerbation rate requiring hospitalization in the prior year was 1.4 per person-year. In a multivariate Poisson regression model, the following factors were found to be independently associated with hospitalization for COPD exacerbation: history of previous hospitalization (exacerbation rate ratio [RR]: 3.0, 95% confidence interval [CI]: 2.1-4.4, p<0.001), history of invasive or noninvasive ventilation (RR: 1.5, 95% CI: 1.1-2.2, p=0.02), sinonasal disease (RR: 1.9, 95% CI: 1.3-3.0, p=0.003), comorbid bronchiectasis (RR: 1.8, 95% CI:1.1-2.8, p=0.01), and higher mean blood eosinophil count over past two years (RR: 2.1, 95% CI:1.3-3.2, p=0.001). Postbronchodilator FEV1, mMRC dyspnea score, history of non-tuberculous mycobacterial isolation from respiratory specimens, history of tuberculosis, coronary artery disease, pulmonary hypertension, depression and anxiety were found to be associated with hospitalization for exacerbation in univariate analyses, but not in the multivariate model.

Conclusion: Hospitalization for COPD exacerbation is independently associated with history of previous admission, history of invasive/noninvasive ventilation, sinonasal disease, comorbid bronchiectasis and higher blood eosinophil count.