



## Service Priorities and Programmes Electronic Presentations

**Convention ID:** 1191

**Submitting author:** Mr Ka Ming Ho

**Post title:** Pharmacist, North District Hospital, NULL

### **A Retrospective Study Investigating Effect of Dual versus Monotherapy Inhaled Corticosteroids on Outcomes of Pneumonia among COPD Patients**

*Ho KM (1), Yeung WC (1)*

*(1) Department of Pharmacy, North District Hospital*

#### **Keywords:**

Pneumonia

COPD

Inhaled Corticosteroids

#### **Introduction**

In North District Hospital (NDH), dual therapy of Inhaled Corticosteroids (ICS) in COPD patients is common but not a recommendation in 2015 GOLD guideline.

#### **Objectives**

We wanted to study the effect of dual ICS on outcomes of pneumonia among COPD patients.

#### **Methodology**

This was a retrospective study. Patients with diagnosis of COPD and pneumonia during the period from 01-01-2011 to 31-12-2013 in NDH were recruited. Patients with continuous use of 6 months ICS were included while those with concomitant diagnosis of asthma or use of systemic steroids within 4 weeks before admission were excluded. Each patient profile was accessed and relevant data were recorded. Relevant data were baseline characteristics, comorbidities, usage of medications, and outcome measurements which included 30-day, 90-day mortality as primary end-point, and use of mechanical ventilation as secondary end-point.

#### **Result**

242 patients using monotherapy of ICS and 109 patients using dual therapy of ICS were included in this study. In 30-day mortality, more patients died in dual therapy group (monotherapy 11.6% vs dual ICS 16.5%; p-value=0.204). In 90-day mortality, more patients died in dual therapy group (monotherapy 7.0% vs dual ICS 13.8%; p-value=0.042) and this difference was statistically significant. In use of mechanical ventilation, there were more patients in dual therapy group. (monotherapy 5.8% vs dual therapy 18.3%; p-value<0.001) and this difference was statistically significant. After doing statistical adjustment using logistic regression analysis, only use of mechanical ventilation outcome reached statistical significance. (30-day mortality: OR: 2.264; 95%CI 0.931-5.507; p-value=0.072; 90-day mortality: OR: 2.744; 95%CI 0.992-7.594; p-value=0.052; Use of mechanical ventilation: OR: 5.55; 95%CI: 2.118-14.569; p-value<0.001) Dual ICS therapy increases risk of worse pneumonia outcomes among COPD patients. Compliance to different inhalers is a

problem to patients and if dual ICS therapy increases risk of worse pneumonia outcome, we should not recommend this practice.