Abstract Group: 5.1. Airway Pharmacology and Treatment
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Title: The effect of high dose N-acetylcysteine (1200mg daily) on airway function and airway trapping in COPD patients — A double blinded randomized placebo controlled trial

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Body: Introduction High dose N-acetylcysteine (NAC) has both antioxidant and mucolytic effect. However, there was a lack of study to demonstrate its beneficial use in COPD patients. Aims: To investigate the effect of high dose NAC (1200mg daily) on airway function in stable COPD patients Methods This is a 16-week double-blinded randomized placebo-controlled trial conducted in a government hospital in Hong Kong. Spirometry confirmed COPD patients(FEV1/FVC <70%) were recruited and randomized into treatment(NAC1200mg daily) and placebo groups. Both patients and doctors were blinded for the group allocation. Lung function tests were measured at the beginning and 16-week-follow up. Results: 107 eligible COPD subjects (93.5% male) with mean age of 70.8+/-8.0 and %FEV1 54.3+/-21.5% were recruited. Baseline characteristics were comparable between the 2 groups. At 16-week, there was significant improvement in small airway function in treatment group (FEF25-75% from 0.53 to 0.65L/s) compared with placebo(0.55 to 0.54L/s)(p=0.006). Airtrapping was also improved in treatment group (RV/TLC ratio from 0.71 to 0.6) compared with placebo (ratio from 0.67 to 0.64) in the emphysematous subtype of COPD patients(p=0.03).

Conclusions High dose N-acetylcysteine improves small airway function in COPD patients. It reduces airtrapping in the emphysematous subgroup of COPD patients.