European Respiratory Society
Annual Congress 2012

Abstract Number: 3761

Publication Number: P4833

Abstract Group: 5.1. Airway Pharmacology and Treatment

Keyword 1: Airway management **Keyword 2:** COPD - management **Keyword 3:** COPD - mechanism

Title: The effects of extrafine beclomethasone/formoterol on hyperinflation and airway geometry in COPD patients

Samir 22090 Vinchurkar samir.vinchurkar@fluidda.com [1], Wim 22091 Vos wim.vos@fluidda.com [1], Cedric 22092 Holsbeke cedric.holsbeke@fluidda.com [1], Jan 22093 De Backer jan.debacker@fluidda.com [1], Gianluigi 22094 Poli G.Poli@chiesi.com [2] and Wilfried 22095 De Backer wilfried.debacker@ua.ac.be [3]. [1] Research and Development, FluidDA nv, Kontich, Antwerp, Belgium ; [2] Research and Development, CHIESI, Parma, Italy and [3] Respiratory Medicine, University Hospital Antwerp, Edegem, Antwerpen, Belgium .

Body: Aim of this study was to assess the effects of extrafine beclomethasone/formoterol treatment on lung hyperinflation and airway geometry in COPD. Data of lobar volume (%pred) and specific lobar airway volumes (siVaw) at FRC and TLC were obtained with functional imaging in 25 COPD patients (GOLD II 14, III 7, IV 4) pre- and 4h post-bronchodilator (post BD) both at baseline and after 6 months of treatment. A post BD drop was observed for both functional residual capacity (FRC) and total lung capacity (TLC) lobar volumes at baseline (FRC:-10%,p<0.01;TLC:-2%,p<0.01) and after 6 months (FRC:-12%,p<0.01;TLC:-2%,p<0.01) as index of reduced hyperinflation. siVaw did increase 4 hours after administration at both time points (+10%,p<0.01, and +8%,p<0.01).

The 4h post-BD drop in hyperinflation at FRC was positively associated with the degree of hyperinflation (r=0.4, p<0.01). A drop in pre-bronchodilation hyperinflation was also observed at TLC after 6 months of treatment (-1%, p<0.01). Extrafine beclomethasone/formoterol decreased hyperinflation and increased airway volume in COPD patients 4h after bronchodilator. Moreover the chronic treatment over 6 months decreased also the pre-bronchodilator hyperinflation at TLC, indicating a progressive reduction of air trapping with treatment.