European Respiratory Society
Annual Congress 2012

Abstract Number: 3590

Publication Number: P678

Abstract Group: 1.4. Interventional Pulmonology

Keyword 1: Bronchoscopy **Keyword 2:** COPD - management **Keyword 3:** Lung mechanics

Title: Early improvements of Chartis assisted-endoscopic lung volume reduction treatments

Dr. Giuseppe 22193 Failla faillone@tin.it MD [1], Dr. Alba 22194 La Sala albalasala@hotmail.com [2], Prof. Mario 22195 Spatafora mario.spatafora@unipa.it [2], Prof. Vincenzo 22196 Bellia vincenzo.bellia@unipa.it [2] and Dr. Mario 22197 Giustolisi m.giustolisi@libero.it [1]. [1] Sezione di Endoscopia Bronchiale, ARNAS-Ospedale Civico Di Cristina Benfratelli, Palermo, Italy and [2] DIBIMIS, University of Palermo, Italy .

Body: Endobronchial valve (EBV) treatment improves lung function and exercise tolerance in patients with pulmonary hyperinflation related to advanced emphysema. However, collateral ventilation (CV) may strongly limit the efficacy of EBV placement. This is a preliminary assessment of the role of lung volume reduction coil (LVR-C) as a possible alternative to EBV when CV occurs. The occurrence of CV in the targeted lobes was assessed in 7 male subjects with heterogeneous emphysema by using the Chartis system. Based upon the above system, five subjects (aged 68±12 yrs) were assigned to EBV treatment (Zephyr EBV, 3 to 4 per patient), while two patients (aged 62±4 yrs), in which CV was documented, were assigned to LVR-C treatment under fluoroscopic guidance (Nitinol coils, a total of 10 coils per patient). FEV1% pred. was 40±10% in the EBV group and 27±15% in the LVR-C group; RV% pred was 154±28% and 171±29%; respectively. At 30 days, FEV1% pred. improved by 4.8 percentage points in the percent of the predicted value in the EBV group and by 1.5 in the LVR-C group. However, the reduction in RV% pred. was more impressive in the LVR-C group (mean difference: -50 points) than in the EBV group (mean difference: -36 points). Similarly, the improvement in the 6 min. walking distance was higher in the LVR-C group (mean difference: +47 meters) than in the EBV group (mean difference: +17 meters). All procedures were well tolerated and no major adverse effects were recorded in both groups. In our preliminary observations, LVR-coil treatment resulted in early improvements in lung function and exercise capacity, and can be proposed for the treatment of patients with severe heterogeneous emphysema when CV is documented.