

European Respiratory Society Annual Congress 2013

Abstract Number: 4235

Publication Number: P773

Abstract Group: 5.2. Monitoring Airway Disease

Keyword 1: COPD - exacerbations **Keyword 2:** COPD - management **Keyword 3:** Chronic disease

Title: Relevance of hemoglobin A1c and acute exacerbations of chronic obstructive pulmonary disease

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Body: Background and objective Hyperglycaemia during hospital admission is associated with poor outcomes in patients admitted with acute myocardial infarction, stroke and pneumonia. Systemic inflammation may represent a possible cause of glycometabolic disorder. We proposed that is associated with an increased risk of acute exacerbation of COPD (AECOPD). Methods Patients with COPD were prospectively enrolled and followed between 2009 and 2013. Medical records, HbA1c, fasting glucose and metabolic markers were assessed in 56 COPD patients. Results A total of 56 patients (mean age of 75.7years) were recruited, 18 with AECOPD and 38 without. Clinical data were collected from the patients. HbA1c levels of AECOPD patients were significantly higher on entry point compared with other patients (5.78±0.26; 4.98±0.18, respectively p=0.0361). A negative association between total cholesterol and LDL cholesterol were observed. Moreover, HbA1c tended to increase at AECOPD (+0.3±0.07). Conclusion Previous study revealed that comorbid diabetes prolongs length of stay and increases risk of death in patients with AECOPD. However, less evidence exists for relationship of HbA1c with AECOPD. For the first time our study demonstrates that HbA1c is a prognostic factor associated with AECOPD.