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**Title:** Acute pulmonary embolism in COPD patients

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**Body:** Chronic Obstructive Pulmonary Disease (COPD) is an established cause of worse evolution during acute Pulmonary Embolism (PE). The aim of our study was to evaluate the profile of COPD patients admitted for PE. We conducted a retrospective cohort study in consecutive patients (n=225) diagnosed with PE between January 2009 and December 2010. Of 225 subjects included (mean  $\pm$  SD; 72 $\pm$ 15 years), 27 (12%) had COPD (71  $\pm$  10 years). The total number of deaths during hospitalization was 38 (17%) in patients without COPD, and 7 (25%) in COPD (p=0.02). COPD Patients (78% males) showed severe disease (FEV1 46  $\pm$  12 % predicted). Previous venous thromboembolic disease (VTD) (37%) or surgery (3%), current cancer (26%) or immobilization (18%) were detected. Obesity was the most frequent co morbidity (50%). Non-survivors COPD showed statistically significant increase of NTpro-BNP (2500  $\pm$  530 pg/ml) and CRP (8.6  $\pm$  0.7mg/l) than COPD survivors patients (850  $\pm$  140pg/ml and 2.8  $\pm$  0.7mg/l, respectively). Severity disease was similar in both groups (FEV1, 45% vs 47%, respectively). Previous VTD [relative risk (RR), 1.1; 95% CI, 1.0–4.0], obesity (RR, 2.1; 95% CI, 1.0–5.0), cancer (RR, 2.6; 95% CI, 1.3–5.1) and elevated CRP (RR, 3.3; 95% CI, 1.4–6.6) were significantly associated with PE-related death, right heart failure or prolonged hospital stay. The number of COPD patients diagnosed for acute PE was slightly higher than previously reported. In addition, COPD patients might be an under recognized group with increased mortality.