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Title: Impact of chronic obstructive pulmonary disease in the outcome of intensive care unit-acquired pneumonia

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Body: Rationale: In patients with ventilator-associated pneumonia, underlying chronic obstructive pulmonary disease (COPD) was independently associated with poor outcome in one study. We assessed the impact of underlying COPD on the outcome of intensive care unit-acquired pneumonia (ICUAP), regardless patients were previously ventilated or not. Methods: Prospective, observational study on the characteristics, microbiology, systemic inflammatory response and outcomes of 381 consecutive patients with ICUAP clustered according to the presence or not of COPD. Results: Eighty-two (21.5%) patients had COPD. Patients with COPD were older, had more frequently cardiac co-morbidity, history of solid cancer, and less SOFA score, and longer stay before the onset of pneumonia, compared with non-COPD patients. The rate of etiologic diagnosis was similar between groups, with a trend to higher rate of *P. aeruginosa* in patients with COPD. Serum levels of interleukin (IL)-6 and IL-8 at onset of pneumonia were lower in COPD patients. Mortality at 28 days was similar between both groups; however, mortality at 90 days was significantly higher in COPD patients (48, 62% vs. 118, 43%, odds-ratio 2.16, 95% confidence interval 1.29-3.61, p=0.003). After adjusting for possible confounders, the association of COPD with increased mortality at 90 days disappeared (adjusted odds-ratio 1.71, 95% confidence interval 0.88-3.31, p=0.11). Conclusions: In patients with ICUAP, underlying COPD is associated with decreased systemic inflammatory response. COPD was not related with increased mortality at 90 days after adjusting for potential confounders.