

Prevalence of Pulmonary Embolism in Patients Admitted with COPD Exacerbations

A standardized screening algorithm detected PE in about 6% of hospitalized patients with chronic obstructive pulmonary disease.

Incidence of pulmonary embolism (PE) in patients who are hospitalized with acute exacerbations of chronic obstructive pulmonary disease (COPD) reportedly is as high as 16% (*NEJM JW Emerg Med* Oct 2016 and *Chest* 2017; 151:544). However, how and when these patients should be tested for PE remains unclear.

In this multicenter French study of 740 adult patients with COPD who were admitted with worsening dyspnea, cough, or sputum production, researchers used a predefined algorithm to diagnosis PE: Patients with high clinical probability of PE (i.e., Geneva score, ≥ 11) proceeded directly to computed tomographic pulmonary angiography (CTPA) and leg ultrasound; those with low or intermediate probability (i.e., revised Geneva score < 11) received D-dimer tests.

- 17 patients had high Geneva scores, of whom 5 had PE, and 2 had isolated deep venous thrombosis (DVT).
- 212 patients had low Geneva scores and negative D-dimer tests (PE was excluded).
- 500 patients had low Geneva scores but positive D-dimer tests; 36 of these patients had PE, and 8 had isolated DVT.
- Among nearly 700 patients deemed not to have PE or DVT on admission, 5 had PE (3 of them fatal) at 3-month follow-up.
- Only 13% of patients for whom PE was considered the most likely diagnosis, based on clinician judgment alone, actually had PE.

COMMENT

In this study, the largest to date, the 6% overall prevalence of PE was lower than that of several previous studies. The revised Geneva score–based algorithm detected almost all cases and appears to be superior to clinician judgment alone, although the few cases that potentially were missed resulted in poor outcomes. Although this algorithm isn't perfect, it can at least serve as a reminder to think about PE in patients for whom COPD exacerbation is initially presumed to be the explanation for respiratory decompensation. — **Andrew S. Parsons, MD, MPH**

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