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LUNG ALERT

No further tests for PE required in low probability cases with a negative D-dimer test

▲ Kearon C, Ginsberg JS, Douketis J, *et al.* for the Canadian Pulmonary Embolism Study Group. An evaluation of D-dimer in the diagnosis of pulmonary embolism. *Ann Intern Med* 2006;**144**:812–21

In patients with suspected pulmonary embolism (PE), further diagnostic testing is often omitted on the basis of a negative D-dimer test result. This study is the first randomised controlled trial to evaluate this approach.

1126 randomised patients with suspected PE were evaluated and classified into low (group A) and high (group B) clinical probability groups; 456 with negative D-dimer test results were randomly allocated to control or experimental interventions. The experimental intervention for both groups was no further testing. The control intervention for group A was a ventilation-perfusion (VQ) scan followed by bilateral leg proximal vein ultrasonography. If the VQ scan was equivocal, ultrasonography was repeated at 7 and 14 days. The control intervention for group B was ultrasonography at 7 and 14 days. All patients in group B had a baseline VQ scan.

The patients were followed up for symptomatic venous thromboembolism (VTE) over a 6 month period. The prevalence of VTE in the 1126 patients enrolled in the study was 15.2%. In group A, six patients were lost to follow up and VTE occurred in 0 of 182 patients in the experimental group and 1 of 185 in the control group (95% CI –3 to 1.6 percentage points). In group B, VTE occurred in 1 of 41 patients in the experimental group and 0 of 41 in the control group.

The authors conclude that, in patients with a low probability of PE and a negative D-dimer test, additional diagnostic testing can be withheld without increasing the frequency of VTE during follow up. However, the study was limited by its use of VQ scanning and lack of double blinding. Computed tomographic pulmonary angiography (CTPA) is now a more widely used diagnostic test for PE.

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