

### Author's Reply

**To the editor:** In his review of the medical literature, Pérez del Llano does not include what can be considered, in methodological terms, the most thorough study of the diagnostic value of computed tomographic angiography (CTA) of the chest in patients with suspected pulmonary embolism, namely, the Prospective Investigation of Pulmonary Embolism Diagnosis (PIOPED) II study.<sup>1</sup> In this prospective multicenter study, the sensitivity of multislice CTA (interpreted by a central, independent panel of radiologists) was 82% (95% confidence interval [CI], 77%-88%). There were no statistically significant differences with our study,<sup>2</sup> for which sensitivity was 72% (95% CI, 63%-81%). Interestingly, the multislice CTA sensitivity reported in the PIOPED II study was significantly lower than the single-slice CTA sensitivity reported in the study by Pérez del Llano et al<sup>3</sup> (82% [95% CI, 77%-88%] vs 99% [95% CI, 97%-100%];  $P < .0001$ ). The findings of the PIOPED II study cannot readily be attributed to methodological errors or technical problems in carrying out the CTA.

In answer to the comments on lower limb ultrasound, we would like to point out that our study was retrospective and so the patients did not undergo protocolized diagnostic procedures. We assessed CTA sensitivity irrespective of whether lower limb ultrasound was conducted at the same time as the scan; if an ultrasound was conducted and proved positive, the patient received anticoagulation therapy and the CTA result was interpreted as a false negative. In fact, lower limb ultrasound was carried out on 33% of the 99 patients in our study with negative chest CTA findings. We are currently recruiting patients for a prospective study that aims to evaluate the prognostic value of lower limb ultrasound for patients with confirmed pulmonary embolism. In an interim analysis carried out on 522 consecutive patients (281 of whom are from the ESSEP [*Evaluation du Scanner Spirale dans l'Embolie Pulmonaire*] study<sup>4</sup>), 26% of patients (135/522) were found to have signs or symptoms of deep vein thrombosis (DVT). Overall DVT prevalence in this series was 51% (267/522).

A large percentage of patients had a high clinical probability of DVT according to their Wells score. We interpret this finding in terms of our centre being able to offer both scintigraphy and CTA for diagnosis of pulmonary embolism; heavy demand for radiology department services leads to

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systematic requests for scintigraphies, while CTA is requested for patients with high clinical suspicion of pulmonary embolism. In the preliminary analysis, interobserver agreement in terms of judging clinical probability was 91%. In a general series of 605 consecutive patients from our hospital with a diagnosis of pulmonary embolism, the distribution of low, intermediate and high clinical probabilities was 22% (134/605), 73% (439/605), and 5% (32/605), respectively.

We strongly disagree with Pérez del Llano's view that recurrence should be evaluated using the same technique as that being validated. The PIOPED II study considered a diagnosis of pulmonary embolism as definite in the following circumstances: high-probability ventilation-perfusion scintigraphy in patients with no previous history of pulmonary embolism, abnormal findings in digital subtraction angiography and/or ultrasound of lower limbs in patients with no history of DVT, and/or nondiagnostic ventilation-perfusion

scintigraphy findings with lower limb ultrasound indicative of DVT.<sup>1</sup> All expert consensus statements and guidelines consider a diagnosis of pulmonary embolism as definite when a test or combination of tests has a positive predictive value of greater than 85%.<sup>5</sup> Thus, high-probability ventilation-perfusion scintigraphy for patients with an intermediate or high clinical probability of pulmonary embolism can be considered a sufficiently definite diagnosis for anticoagulation therapy to be indicated.<sup>6</sup>

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