

subsegmental perfusion defects were considered suggestive as well. We would appreciate a statement from the authors on this matter.

The discrepancy between the relatively low accuracy of perfusion SPECT plus low-dose CT and the high accuracy of V/Q SPECT plus CT in the study is considerable. It would be important to reanalyze the data to define the scintigraphic pattern responsible for the low specificity, 51%, when perfusion SPECT plus CT was used instead of V/Q SPECT plus CT. The information gained from this reanalysis would help us better understand the strengths and pitfalls of perfusion SPECT and help improve diagnostic confidence and accuracy.

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**REPLY:** We greatly appreciate the interest of Dr. Nguyen and colleagues in our study (1), in which we concluded that ventilation–perfusion (V/Q) SPECT in combination with low-dose CT without contrast enhancement has an excellent diagnostic performance in patients suspected of having pulmonary embolism (PE).

Dr. Nguyen and colleagues raise an interesting point about the interpretation of perfusion SPECT alone, without low-dose or ventilation SPECT. However, as we concluded in our paper, a ventilation scan is mandatory because of the high number of false-positive test results and a specificity of only 51%. Perfusion can be used in combination with low-dose CT only if the scan results are negative (e.g., a high negative predictive value of 91%, as in our study) and, therefore, only as a rule-out test. From a subgroup analysis of our study, we concluded that planar V/Q lung scintigraphy had a specificity of 72%, which is still higher than the specificity of perfusion SPECT in combination with low-dose CT (2). Therefore, omitting the low-dose CT and using only perfusion SPECT would probably result in a low specificity and too many false-positive diagnoses.

In our study, we classified all scintigraphic mismatch defects as PE. Using PLOPED and PISAPED criteria is inappropriate because they were derived from single-view <sup>133</sup>Xe ventilation and planar perfusion imaging, which is very different from V/Q SPECT (3). Reinartz et al. used a simplified reporting scheme that regarded all mismatch defects as PE, resulting in high sensitivity (97%) and specificity (91%) on V/Q SPECT (4). The best way to report V/Q SPECT has not been clarified. There seems to be

a consensus about the need for a more simplified reporting scheme in V/Q SPECT reading, and therefore we chose to use Gestalt interpretation criteria (5).

We agree that V/Q SPECT is underutilized but could easily be applied as a routine method in most centers.

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## PET/CT with <sup>18</sup>F-FLT Is Unlikely to Cause Significant Hepatorenal or Hematologic Toxicity

**TO THE EDITOR:** Therapeutic doses of cold fluorothymidine (FLT) used as antiviral therapy have been shown to cause renal, hepatic, and hematologic toxicity within 4 wk of treatment (1). This observed toxicity was of concern when investigational studies using <sup>18</sup>F-FLT were initiated in the United States, prompting some investigators applying for a U.S. Food and Drug Administration investigational new drug application to institute eligibility criteria for hematologic (marrow), renal, and hepatic function to avoid any potential “toxicity” from even tracer doses of <sup>18</sup>F-FLT. In fact, the current <sup>18</sup>F-FLT investigational new drug application held by the Society of Nuclear Medicine contains such criteria. It is noteworthy that restrictive criteria on hepatorenal and hematologic parameters were implemented, although the <sup>18</sup>F-FLT nucleoside dose (in µg) given for imaging purposes is at least 10,000 times lower than truly pharmacologic doses given for therapy with cold FLT (i.e., ~1 µg vs. >20,000 µg given as a single dose, with multiple doses typically given) (1).

Hundreds of doses of <sup>18</sup>F-FLT have been administered worldwide (2–12). Although it seems logical that the tracer dose associated with an <sup>18</sup>F-FLT imaging study is unlikely to cause hepatorenal or hematologic toxicity, no data pertaining to the presence or lack thereof have been reported to date. On the other hand, the current eligibility criteria requiring normal or near-normal hematologic, renal, and hepatic parameters before <sup>18</sup>F-FLT tracer injection done for the sole purpose of avoiding presumed <sup>18</sup>F-FLT toxicity is, in our experience, an impediment to accruing