Does Spirometry Still Measure Up in the Diagnosis of COPD?

To the Editor:

An adequate and early diagnosis of COPD is essential for an appropriate and efficient treatment of this debilitating disease. Currently, spirometry is required to establish a diagnosis of COPD in patients with chronic respiratory symptoms or in those at risk. According to the results reported in CHEST (December 2012) by Mohamed Hoesein et al., this approach would misdiagnose an important group of patients who do not (yet) fulfill the spirometry diagnostic criteria: that is, among male heavy smokers, those with higher FEV$_1$/FVC ratios may be the ones with the fastest FEV$_1$ decline, a hallmark of COPD. However, from their regression model that exposed potential confounders, it appears that a higher level of FEV$_1$ actually preserved airflow. Adjustments for this confounder would have subsequently disfavored individuals with higher FEV$_1$/FVC ratios. I wonder how the different groups would compare without these adjustments. Moreover, a recent article by Akkermans et al. revealed a faster FEV$_1$ decline for patients with lower FEV$_1$/FVC ratios in both smokers and nonsmokers. Although the ECLIPSE (Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints), UPLIFT (Understanding Potential Long-term Impacts on Function With Tiotropium), and TORCH (Towards a Revolution in COPD Health) trials indeed found FEV$_1$ decline to be inversely related to GOLD (Global Initiative for Chronic Obstructive Lung Disease) stage, as recognized by Mohamed Hoesein et al., this effect may as well be explained by the inverse relation across all studies between GOLD stage and the prevalence of current smoking, the most important factor for FEV$_1$ decline. 4,5

Whether a horse-racing effect should be acknowledged in the progression of COPD remains undecided. As yet, the current spirometry diagnostic criteria appear to remain crucial in the diagnosis of COPD. In the end, one of the striking results from this cohort appears to be the relatively high FEV$_1$ decline in heavy smokers. Apart from an adequate diagnosis of COPD, smoking may still be the most important and practical tool to predict future disease and may as well be the most important feature at which to direct intervention.

Wouter D. van Dijk, MD
Nijmegen, The Netherlands

References