Correspondence

Prognostic Value of Functional Decline in Middle-Aged Smokers

To the Editor:

Drummond and colleagues (1) report that smokers with mild to moderate chronic obstructive pulmonary disease (COPD) and worse initial FEV₁/FVC have a more rapid decrease of FEV₁ and higher rate of death. Only subjects with lower than 70% FEV₁/FVC ratio are at risk for excessive lung function decline. The main limitation of their study is the only 5 years of follow-up, so their conclusion that spirometry predicts long-term outcome is not warranted. The authors refer to the previous study by Burrows and colleagues (2) of 13 smokers, with initial FEV₁/FVC less than 70%, followed for 10 years, but omit another study of 56 middle-aged smokers, followed for 13 years (3), including besides spirometry, airway resistance, maximal expiratory flow rates, and small-airway disease tests such as closing volume and N₂ slope. Both studies showed that subjects with a low FEV₁/FVC or a low FEV₁/VC at the entry had a subsequent accelerated loss of FEV₁. In the article by Burrows and colleagues (2) on 141 male smokers, with an FEV₁ greater than 60% of predicted, followed by spirometry for at least 6 years, initial normal FEV₁/FVC explained only about 16% of the subsequent decrease of FEV₁. Similarly, in our study, 79% of smokers with a normal FEV₁/VC still had normal values (more than 70%) 13 years later (3). Conversely, a decreased FEV₁/VC has no necessarily serious implication in itself. Indeed, only a minority of our subjects, with lower than 60% FEV₁/VC, showed an accelerated loss of FEV₁, reaching end FEV₁/VC values lower than 45%. An associated high N₂ slope adds the necessary information to predict a low FEV₁/VC. In agreement with our data, the analysis of Drummond and colleagues (1) showed that excessive lung function decline occurred only below FEV₁/FVC of 0.65. Both figures of Drummond and colleagues (1) and ours (3) are lower than current thresholds used to define COPD. Our data suggest that a subgroup of smokers in their 50s with a low FEV₁/VC and a high N₂ slope are probably the susceptible smokers at high risk to develop COPD.

Recently it was reported that in some subjects, the progressive decrease with age of FEV₁ is not the rule. In them, FEV₁ remains stable or even increased (4, 5). However, these results were obtained from follow-ups of only 3 to 5 years, too short a time. In 7 out of 56 subjects, over 13 years, FEV₁ either did not change or even increased (3).

Author disclosures are available with the text of this letter at www.atsjournals.org.

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Reply

From the Authors:

We thank Dr. Stanescu for his interest in our article describing the association between baseline lung function measurements and longitudinal lung function decline and mortality in over 5,800 smokers from the Lung Health Study (1). Dr. Stanescu and colleagues’ prior publication of 13-year follow-up of 56 smokers and ex-smokers (2) was an important foundation for our analysis. We agree that there is substantial heterogeneity in lung function decline, and a single baseline measure does not necessarily predict excessive decline in all persons. Although the individual risk for excessive lung function decline may not be completely predicted by a single measure, our analysis identifies a high-risk population at risk for complications from chronic obstructive pulmonary disease. We do think our analysis includes adequate follow-up to draw meaningful conclusions, as our primary association between lower baseline lung function and excessive decline was observed with both 5-year and 11-year follow-up data, as described in the article and online supplement. Our data do not support using a lower threshold than FEV₁/FVC < 0.60 for accelerated decline (such as FEV₁/FVC < 0.45 as suggested by Dr. Stanescu). Unfortunately, we did not collect nitrogen slope of the alveolar plateau (N₂ slope) data, so we cannot determine if this would add to the prediction of lung function decline.

Author disclosures are available with the text of this letter at www.atsjournals.org.

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A Placebo-controlled Randomized Trial of Warfarin in Idiopathic Pulmonary Fibrosis: A Hidden Subgroup?

To the Editor:

We read the article describing the placebo-controlled randomized trial of warfarin in idiopathic pulmonary fibrosis (Anticoagulant Effectiveness in Idiopathic Pulmonary Fibrosis [ACE-IPF]) (1) and the recent correspondence by Drs. Bendstrup and Hilberg