

COPD *sine* COPD

Currently, almost all physicians rigidly apply the Global Initiative for Obstructive Lung Disease (GOLD) definition for chronic obstructive pulmonary disease (COPD), exemplified by the post-bronchodilator forced expiratory volume in 1 second (FEV₁)/forced vital capacity (FVC) <0.70 as being diagnostic.^[1] However, there are emerging data to suggest that this may not be definitive.

The SPIROMICS (Subpopulations and Intermediate Outcome Measures in COPD Study) research group recently reported on an observational study involving 2 736 current or former smokers.^[2] They measured their respiratory symptoms with the COPD Assessment Test (CAT), spirometry and 6-minute walk distance, and performed a high-resolution computed tomography (HRCT) scan of the chest. Respiratory symptoms were present in 50% of subjects with spirometry in the normal range. These participants also had a mean (standard deviation (SD)) rate of exacerbations per year that was significantly higher than that of asymptomatic smokers (0.27 (0.67) v. 0.08 (0.31), $p < 0.001$). They also had greater limitation of activity, mildly reduced FEV₁/FVC and inspiratory capacity, and more airway wall thickening seen on HRCT scan than the asymptomatic group. When categorised according to the CAT scores, this current and ex-smoker group with a score ≥ 10 had an exacerbation rate approximately twice that of the group spirometrically defined as COPD with a score of < 10 . Among this apparent non-COPD group, 42% were taking bronchodilators and 23% inhaled corticosteroid.

These data are consistent with an additional report by the Genetic Epidemiology of COPD (COPD Gene) investigators.^[3] They found one or more respiratory-related impairments in 54.1% (2 375/4 388)

of smokers or ex-smokers with normal spirometry. This group had worse quality of life than the never-smokers (mean St George's Respiratory Questionnaire total score 17.0 (18.0) v. 3.8 (6.8), $p < 0.001$) and a lower 6-minute walk distance, and 42.3% (127/300) had computed tomography (CT) evidence of emphysema or airway thickening.

It appears that appreciable numbers of smokers who do not meet the GOLD criteria for COPD have significant symptoms, exacerbations, imaging evidence of airways disease and are receiving medication. These data suggest that we need to be circumspect about the GOLD definition, carefully evaluate at-risk patients for symptoms and treat appropriately.

E M Irušen

Professor and Head, Division of Pulmonology, Department of Medicine, Stellenbosch University and Tygerberg Academic Hospital, Cape Town, South Africa

1. Vestbo J, Hurd SS, Agusti AG, et al. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: GOLD executive summary. *Am J Respir Crit Care Med* 2013;187(4):347-365. DOI:10.1164/rccm.201204-0596PP
2. Woodruff PG, Barr G, Bleecker E, et al. Clinical significance of symptoms in smokers with preserved pulmonary function. *N Engl J Med* 2016;374(19):1811-1821. DOI:10.1056/NEJMoa1505971
3. Regan EA, Lynch DA, Curran-Everett D, et al. Clinical and radiologic disease in smokers with normal spirometry. *JAMA Intern Med* 2015;175(9):1539-1549. DOI:10.1001/jamainternmed.2015.2735

S Afr Respir J 2016;22(3):76. DOI:10.7196/SARJ.2016.v22i3.91