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Journal club

Using lung cancer screening as an opportunity to diagnose COPD

Early diagnosis of chronic obstructive pulmonary disease (COPD) allows increased opportunity for smoking cessation advice and treatment, which potentially improves prognosis. This single-centre, prospective cross-sectional study investigated whether screening CT scans could diagnose COPD without the need for pulmonary function testing (PFT).

One thousand one hundred and forty men, ex or current smokers (>16.5 pack year history), aged 50—75 years, already enrolled in a lung cancer screening trial, had low dose screening inspiratory CT scans, PFT and an additional expiratory scan. Pre-bronchodilatory forced expiratory volume in one second/forced vital capacity ratio <70% was used to diagnose COPD. Those with advanced disease, self-reported as unable to climb two flights stairs were excluded. CT emphysema, CT air trapping, body mass index, pack years and smoking status formed a diagnostic model to identify those with COPD.

Four hundred and thirty-seven (38%) subjects had COPD on PFT. The diagnostic model correctly diagnosed 274 patients with COPD, falsely identified 85 and missed 163. The model had a sensitivity of 63% and specificity of 88%. Accuracy increased with increasing severity, identifying 100% (25 of 25) patients with severe obstruction, 73% (99 of 135) with moderate obstruction and 54% (150 of 277) with mild obstruction. Model adjustment according to the presence of symptoms did not improve the results.

The authors acknowledge the use of quantitative CT as a primary screening method for COPD is not likely to be beneficial, but suggest that if CT lung cancer screening is widely adopted, this model may be further validated and may be additionally useful for early diagnosis of COPD.

► **Mets OM**, Buckens CF, Zanen P, *et al*. Identification of chronic obstructive pulmonary disease in lung cancer screening computed tomographic scans. *JAMA* 2011;**306**:1775—81.

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