EDITORIAL

COPD patients at high risk of lung cancer regardless of smoking status

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CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IS A STRONG, INDEPENDENT RISK FACTOR for the development of lung cancer in patients who have never smoked, a large population-based cohort study from South Korea has found.[1] The risk of lung cancer in COPD patients who had never smoked was higher than in smokers who did not have COPD.

The authors used data from a large, nationally representative cohort to evaluate the risk of developing lung cancer associated with smoking status, comparing the risk in never smokers with COPD with never smokers without COPD, ever smokers without COPD and ever smokers with COPD.

'COPD is a strong, independent risk factor for the development of lung cancer in patients who have never smoked'

Data were obtained on men and women, aged 40-84 years, enrolled in the Korean National Health Insurance Service Sample Cohort, between 1 January 2002 and 31 December 2013. All had undergone at least one health screening examination.

Information on smoking was recorded by self-completed questionnaire at baseline and participants were categorised as ever or never smokers.

Patients with a history of cancer before the first screening examination and those without a record of baseline body mass index or smoking status were excluded from the sample. The final sample size was 338,548 of whom 146,996 were men and 191,552 women.

Patients were followed up until the development of lung cancer, death, or the end of the study. Median follow-up was seven years. During 2,355,005 person-years of follow-up there were 290 incident cases of lung cancer in participants with COPD (incidence rate 4.9 per 1,000 person-years) and 1,544 cases in those without COPD or before the development of COPD (incidence rate 0.7 per 1,000 person-years).

Compared with participants without COPD, those with COPD were older, more likely to be men, to be smokers, to have a lower income and have more comorbidities.

Using never smokers without COPD as the reference, the fully adjusted hazard ratios (HR) for incident lung cancer were:

- Never smokers with COPD - HR 2.67 (95% CI: 2.09-3.40)
- Ever smokers without COPD - HR 1.97 (95% CI: 1.75-2.21)
- Ever smokers with COPD - HR 6.19 (95% CI: 5.04-7.61)

Among those who had never smoked at baseline, only 2.0% became smokers during the study. When a further analysis using smoking status as the time varying variable was carried out the results were similar.

While it has been recognised that COPD is associated with an increased risk of developing lung cancer, there has been limited evidence regarding any association between the two conditions among those who have never smoked. These findings fill an important gap in the evidence base as up to 39% of patients with COPD have never smoked.

In this study COPD has been found to be a strong and independent risk factor for the development of lung cancer in never smokers, with an increased risk greater than that in ever smokers who do not have COPD. The risk of developing lung cancer for those who smoke and who have COPD was particularly high.

The study authors conclude: 'COPD was a strong, independent risk factor for lung cancer incidence in never smokers. Patients with COPD are at high risk of lung cancer and future studies should evaluate whether COPD patients are candidates for lung cancer screening, irrespective of smoking status.'

'Given that poor lung function in COPD is often a barrier to optimal lung cancer treatment due to increased risk of treatment-related morbidities, our study suggests that early detection of lung cancer in COPD patients may reduce the risk of treatment complications,' they add.

I have always maintained a high index of suspicion for the development of lung cancer in those who smoke. This paper will ensure that I extend that high index to my patients with COPD who have never smoked.

REFERENCE
1 Park HY, Kang D, Shin SH et al. Chronic obstructive pulmonary disease and lung cancer incidence in never smokers: a cohort study. *Thorax* Epub ahead of print 2 April 2020. doi:10.1136/thoraxjnl-2019-213732

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