Chronic Obstructive Pulmonary Disease as an Independent Risk Factor for Cancer
Joseph Finkelstein, Xingyue Huo
Icahn School of Medicine at Mount Sinai, New York, NY

BACKGROUND

Many studies have revealed a close association between chronic obstructive pulmonary disease (COPD) and cancer.

The fact that a high prevalence of COPD in elderly smokers may imply the association between COPD and cancer that depend on smoking history or age. The primary purpose of this study was to assess the existence of COPD is an independent risk factor for the development of cancer.

OBJECTIVES

Perform a matched case-control study based on the 2018 Behavioral Risk Factor Surveillance System (BRFSS).

- Eligible population in the study: smokers (smoked cigarettes more than 100 in their entire lives) aged or more than 40 years old.
- Case group: subjects developed cancer after 40 years old.
- Control group: subjects do not have cancer.

METHODS

Cancer cases were matched individually with cancer-free (control group) subjects on Age, Gender, Race, and Smoking Status at a 1:1 ratio.

Chi-square tests determine whether the prevalence of cancer cases in these variable groups was significantly different at the 0.05 level.

Conditional logistic regression estimates the association between cancer and COPD adjusting for education, income, exercises in the past 30 days, and drinking status.

RESULTS

- Table 1 indicated the prevalence of cancer cases among various demographic groups. 55.99% of subjects with COPD were diagnosed with cancer, while 48.30% of subjects without COPD were diagnosed with cancer.

- Fig 1 summarized the demographic characteristics of cancer cases in the case-control matched sample.

- Table 2 suggested the probability of having cancer for COPD patients was 2.17 times the probability of those who do not have COPD (P-value <0.001).

CONCLUSIONS

We found evidence of a strong association between COPD and cancer. Compared with smokers without COPD, the adjusted hazard ratios for cancer in smokers with COPD was 2.17 (95% CI: 1.29-3.65), implying that patients with COPD are at high risk of cancer, irrespective of smoking duration.