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Chronic obstructive pulmonary disease complicating early-stage lung cancer

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Chronic obstructive pulmonary disease (COPD) is present in 40-60% of Lung Cancer (LC) patients; some existed long before LC diagnosis and others were identified at the time of LC diagnosis. Our clinical research team has been evaluating the impact of different diagnostic time (prior vs. concurrent), severity of COPD and a subgroup of CT-defined emphysema on long-term survival of patients with early stage non-small cell lung cancer (NSCLC). Two patient cohorts include ~1400 NSCLC with known COPD status and ~1100 with known emphysema status. COPD was defined according to pulmonary function tests (post-bronchodilator FEV_1/FVC<0.70) or recorded medical diagnosis; severity was grouped by GOLD criteria (Global Initiative for Chronic Obstructive Lung Disease). Emphysema was based on standard-dose CT scan; percentage quantification was determined through direct inspection and categorized into <5%, 6-24% and 25-60%. Five key findings are summarized as follows: Patients with a prior COPD had a significantly higher proportion of former smokers and moderate airflow obstruction than those with concurrent COPD. Worse survival was significantly associated with prior COPD and moderate to severe airflow obstruction regardless of COPD diagnosis time. In surgically-treated patients, the overall postoperative complications were higher in patients with a greater emphysema score. Increasing emphysema score was significantly associated with worse survival. More specific to resected LC in the predominant emphysematous region, patients with >6% emphysema experienced a mild decrease in FEV_1 and an increase in FEV_1/FVC. We conclude that COPD in general and emphysema in particular should be taken into careful consideration in LC treatment.

Biography

Ping Yang has completed her MD from Beijing Medical College in China and PhD at Johns Hopkins University in USA. She has been leading a comprehensive lung cancer research program at Mayo Clinic since 1997, emphasizing patient-centered outcome research with COPD as one of the key interested areas. She has published more than 200 peer-reviewed papers and has been serving as an Editorial Board Member of *Journal of Clinical Oncology* and Associate Editor of *Journal of Thoracic Oncology.*

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