White Paper Abstract

Exploring the impact of screening with low-dose CT on lung cancer mortality in mild to moderate COPD patients: A pilot study

BACKGROUND: COPD is an independent risk factor for lung cancer, especially in patients with mild to moderate disease.

OBJECTIVES: To determine if performing lung cancer screening in GOLD 1 and 2 COPD patients, results in reduced lung cancer mortality.

METHODS: This study compared patients with mild to moderate COPD from 2 cohorts matched for age, gender, BMI, FEV1%, pack-years history and smoking status. The screening group (SG) had an annual low dose computed tomography (LDCT). The control group (CG) was prospectively followed with usual care. Lung cancer incidence and mortality densities were compared between groups.

RESULTS: From an initial sample of 410 (SG) and 735 (CG) patients we were able to match 333 patients from each group. At the same follow-up time lung cancer incidence density was 1.79/100 person-years in the SG and 4.14/100 person-years in the CG (p = 0.004). The most frequent histological type was adenocarcinoma in both SG and CG (65% and 46%, respectively), followed by squamous cell carcinoma (25% and 37%, respectively). Eighty percent of lung cancers in the SG (16/20) were diagnosed in stage I, and all of CG cancers (35/35) were in stage III or IV. Mortality incidence density from lung cancer (0.08 vs. 2.48/100 person-years, p < 0.001) was lower in the SG.

CONCLUSION: This pilot study in patients with mild to moderate COPD suggests that screening with LDCT detects lung cancer in early stages, and could decrease lung cancer mortality in that high risk group. Appropriately designed studies should confirm these important findings.

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