

Lung and kidney: a dangerous liaison? A population-based cohort study in COPD patients in Italy

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BACKGROUND. COPD is among the major causes of death, and it is associated with several comorbid conditions. Chronic kidney disease (CKD) is frequently diagnosed in older people living in Western societies and could impact COPD patients' mortality. We evaluated the relationship between burden of comorbidities, CKD, and mortality in a population-based cohort of patients discharged with a diagnosis of COPD.

METHODS. A longitudinal cohort study was conducted evaluating 27,272 COPD patients. Recruitment of COPD subjects and identification of CKD and other comorbidities summarized by the Charlson comorbidity index (CCI) were based on claims data coded according to the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). Severity of COPD was classified by hospital diagnosis or exemption from medical charges due to respiratory failure or previous hospitalizations for COPD. The impact of comorbidities on survival was assessed by Cox regression.

RESULTS. Less than 40% of patients were still alive at the end of a median follow-up of 37 months (17 months for patients who died and 56 months for those alive at the end of follow-up). After adjustment for age, gender, and severity score of COPD, CKD (hazard ratio =1.36, 95% confidence interval 1.30-1.42) independently from comorbidities summarized by the CCI was a significant risk factor for mortality.

CONCLUSION. In spite of limitations due to the use of claims data, long-term survival of COPD patients was heavily affected by the presence of CKD and other comorbidities.

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