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Predictors of mortality in subjects with progressive fibrosing interstitial lung diseases

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Abstract

Background and objective: Demographic and clinical variables, measured at baseline or over time, have been associated with mortality in subjects with progressive fibrosing interstitial lung diseases (ILDs). We used data from the INPULSIS trials in subjects with idiopathic pulmonary fibrosis (IPF) and the INBUILD trial in subjects with other progressive fibrosing ILDs to assess relationships between demographic/clinical variables and mortality.

Methods: The relationships between baseline variables and time-varying covariates and time to death over 52 weeks were analysed using pooled data from the INPULSIS trials and, separately, the INBUILD trial using a Cox proportional hazards model.

Results: Over 52 weeks, 68/1061 (6.4%) and 33/663 (5.0%) subjects died in the INPULSIS and INBUILD trials, respectively. In the INPULSIS trials, a relative decline in forced vital capacity (FVC) >10% predicted within 12 months (hazard ratio [HR] 3.77) and age (HR 1.03 per 1-year increase) were associated with increased risk of mortality, while baseline FVC % predicted (HR 0.97 per 1-unit increase) and diffusing capacity of the lungs for carbon monoxide (DLCO) % predicted (HR 0.77 per 1-unit increase) were associated with lower risk. In the INBUILD trial, a relative decline in FVC >10% predicted within 12 months (HR 2.60) and a usual interstitial pneumonia-like fibrotic pattern on HRCT (HR 2.98) were associated with increased