

27 September - 1 October | Amsterdam, Netherlands

## Effect of comorbidities on mortality in IPF: Analysis from the British Thoracic Society (BTS) UK interstitial lung disease (ILD) registry.

L. Sia (Kuala Lumpur, Malaysia), P. Minnis (Northern Ireland, United Kingdom), G. Bloye (-, United Kingdom), H. Morris (Manchester, United Kingdom), M. Naqvi (London, United Kingdom), C. Hodkinson (-, United Kingdom), S. Fletcher (-, United Kingdom), F. Chua (London, United Kingdom), G. Thomas (Oxford, United Kingdom), R. Hewitt (London, United Kingdom), F. Khan (Leicester, United Kingdom), G. Amanda (-, Indonesia), K. Bączek (-, Poland), A. Achaiah (-, United Kingdom), L. Sesé (Bobigny, France), N. Chaudhuri (-, United Kingdom)

**Background:** Comorbidities impact IPF mortality, with cardiac disease, stroke, and lung cancer linked to worse outcomes, while gastroesophageal reflux disease (GERD) may be associated with improved survival.

Objectives: This study aimed to explore the effect of comorbidities on IPF mortality from the BTS UK ILD registry.

**Methods:** Participating centres entered data into a central electronic database between 1 January 2013 and May 2024. Informed consent was obtained by all participants. A cox proportional hazard model was used to explore factors associated with mortality.

**Result:** Of 6,839 patients, the most common comorbidities were hypertension (33.4%), diabetes (18.6%), ischemic heart disease (IHD) (18.0%), and GERD (17.3%). Only 15.5% of patients had no comorbidities. IHD increased mortality risk (HR 1.18, 95% CI 1.03–1.36, P=0.007), while hiatus hernia was associated with reduced risk (HR 0.74, 95% CI 0.57–0.94, P=0.016). The presence of atrial arrhythmia and absence of comorbidities were not independently associated with mortality, despite being significant in bivariate analysis (HR 0.95, 95% CI 0.69–1.31, P=0.76; HR 0.88, 95% CI 0.74–1.04, P=0.127). Other poor prognostic factors included older age, male gender, lower baseline forced vital capacity, and diffusion capacity for carbon monoxide. Smoking history, duration of symptoms, index of multiple deprivation, definite UIP pattern on high-resolution CT, baseline supplemental oxygen requirement were not predictors of mortality.

**Conclusion:** Comorbidities significantly influence IPF mortality. In this cohort from the BTS registry, hiatus hernia was found to be a protective factor.

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