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Functional ageing in fibrotic interstitial lung disease: the impact of frailty on adverse health outcomes

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Frailty independently predicts adverse health outcomes in patients with fibrotic ILD; with functional ageing as the main driver of most age-related adverse health outcomes there is a need to recognise, prevent and treat frailty in this population http://bit.ly/2k81rRc

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ABSTRACT

Background: Accelerated biological and functional ageing is common in fibrotic interstitial lung disease (ILD); however, their impact on adverse health outcomes has not been evaluated in this population.

Methods: Patients were prospectively recruited from a specialised ILD clinic. Functional ageing was determined by frailty index and biological age by measurement of absolute telomere length (aTL) from patients' peripheral blood leukocytes. Adverse health outcomes included health-related quality of life (St George's Respiratory Questionnaire), number and length of respiratory and non-respiratory hospitalisations, medication tolerability and time to death or lung transplantation. Multivariable models were used to determine the risks and rates of adverse health outcomes associated with the frailty index and aTL.

Results: 540 patients with fibrotic ILD, including 100 with idiopathic pulmonary fibrosis (IPF), provided 749 frailty index assessments, with 189 patients providing blood samples. The frailty index was strongly associated with quality of life, rate of hospitalisation, time to hospital discharge and mortality, including adjustment for age, sex, disease severity and IPF diagnosis. Mortality prognostication was improved by the addition of the frailty index to commonly used clinical parameters and previously validated composite indices. Conversely, aTL was not associated with most adverse health outcomes. The effect of chronological age on outcomes was mediated primarily by the frailty index, and to a lesser extent by aTL.

Conclusions: Functional ageing is associated with adverse health outcomes in patients with fibrotic ILD, indicating the need for consideration of the individual functional age into clinical decision-making.