Analysis of Baseline Characteristics by Emphysema Extent in Patients With Idiopathic Pulmonary Fibrosis

Vincent Cottin, Nicola Sverzellati, Derek Weir, Kate Antoniou, Mark Atwood, Gerry Oke, Klaus-Uwe Kirchgeissler, Alastair U. Wells

Department of Respiratory Medicine, St. George’s Hospital Medical School and University College London Hospitals, London, UK; Division of Respiratory and Critical Care Medicine, St. George’s University of London, London, UK; Department of Radiology, University College London Hospitals, London, UK

BACKGROUND

Idiopathic pulmonary fibrosis (IPF) is a debilitating, progressive, irreversible, fatal, fibrosing lung disease, characterised by irreversible fibrosis of the lung interstitium.1–3 Combination of pulmonary fibrosis and emphysema are present in approximately one-third of patients with IPF.4

The decline in forced vital capacity (FVC) over time is used to assess progression of fibrosis in IPF and is correlated with mortality.5

However, in patients with IPF, hyperinflation associated with coexisting emphysema might artificially preserve FVC values.6

In a pooled analysis of data from two clinical trials, GIPF-001 and GIPF-002, in patients with IPF, emphysema extent was quantified by two experienced radiologists using high-resolution computed tomography (HRCT) images.7

Emphysema extent > 15% was associated with reduced FVC decline vs no emphysema/emphysema < 15%.8

This finding has important implications for the routine monitoring of patients with IPF and coexisting emphysema.

However, assessing the extent of emphysema on an HRCT image is laborious and may be limited by variability between radiologists.

We aimed to conduct a post hoc analysis of data from two clinical trials, GIPF-001 and GIPF-002, in patients with IPF, to identify characteristics that could be used to assess whether a patient is likely to be at risk of reduced FVC decline due to emphysema.

METHODS

Patients

This post hoc analysis included patients from GIPF-001 (NCT01003476) and GIPF-002 (NCT00705998), phase II/III, randomised, double-blind, placebo-controlled trials of interferon-β in patients with IPF.

Our future research aims to use findings from this analysis to guide patients with more extensive emphysema who are more likely to experience reduced FVC decline over time due to the presence of emphysema.

REFERENCES