Health-related quality of life and symptoms in patients with IPF treated with nintedanib: analyses of patient-reported outcomes from the INPULSIS® trials

Michael Kreuter, Wim A Wuyts, Marlies Wijsenbeek, Sabrina Bajwah, Toby M Maher, Susanne Stowasser, Natalia Male, Wibke Stansen, Nils Schoof, Leticia Orsatti and Jeffrey Swigris

Supplementary material

A separate analysis comparing nintedanib- and placebo-treated patients who showed a ≤ 5% decline in FVC % predicted was performed. For this comparison, median difference in change from baseline to week 52 between nintedanib and placebo for each PRO was calculated using the Hodges–Lehmann estimator, and statistical significance was determined using the Wilcoxon two-sample test.

Table S1. Mean and median changes from baseline to week 52 and median differences between nintedanib and placebo in PROs reported by patients with ≤ 5% decline in FVC % predicted over the study period (analysis 1)

	Mean change from baseline to week 52		Median change from baseline to week 52		Median difference in change from baseline (nintedanib vs placebo)	*P* value
	Placebo	Nintedanib	Placebo	Nintedanib		
SGRQ total score	0.07 (*n* = 162)	−0.31 (*n* = 315)	0.08 (*n* = 162)	−0.91 (*n* = 315)	−0.66 (−3.06, 1.82)	0.602
SGRQ symptom score	−2.68 (*n* = 163)	−2.25 (*n* = 329)	−2.80 (*n* = 163)	−0.52 (*n* = 329)	0.65 (−2.65, 4.05)	0.706
SGRQ activity score	0.76 (*n* = 163)	0.78 (*n* = 323)	0.00 (*n* = 163)	0.00 (*n* = 323)	−0.12 (−3.66, 0.56)	0.436
SGRQ impacts score	0.99 (*n* = 162)	−0.09 (*n* = 320)	0.46 (*n* = 162)	0.00 (*n* = 320)	−1.28 (−3.98, 1.52)	0.386
UCSD-SOBQ	3.11 (*n* = 145)	2.97 (*n* = 296)	2.00 (*n* = 145)	1.00 (*n* = 296)	−1.00 (−4.00, 2.00)	0.601
CASA-Q cough symptom score*	2.15 (*n* = 163)	2.64 (*n* = 332)	0.00 (*n* = 163)	0.00 (*n* = 332)	0.00 (−0.00, 0.00)	0.985
CASA-Q cough impact score*	0.75 (*n* = 163)	1.68 (*n* = 332)	0.00 (*n* =163)	0.00 (*n* = 332)	0.00 (−3.13, 3.13)	0.596
EQ-5D VAS*	−3.32 (*n* = 161)	0.59 (*n* = 329)	0.00 (*n* = 161)	0.00 (*n* = 329)	3.00 (0.00, 5.00)	0.040

*Decrease in score indicates worsening health; positive differences favor nintedanib (for all other measures, negative differences favor nintedanib).
CASA-Q cough and sputum assessment questionnaire (symptom and impact score), *EQ-5D VAS* EuroQoL 5-dimensional quality of life questionnaire visual analog scale, *FVC* forced vital capacity, *PRO* patient-reported outcome, *SGRQ* St George's respiratory questionnaire (total, symptoms, activity and impacts score), *UCSD-SOBQ* University of California San Diego shortness of breath questionnaire

Table S2. Mean and median changes from baseline to week 52 and median differences between nintedanib and placebo in PROs reported by patients with ≤ 5% decline in FVC % predicted over the study period (LOCF sensitivity analysis)

	Mean change from baseline to week 52		Median change from baseline to week 52		Median difference in change from baseline (nintedanib vs placebo)	*P* value
	Placebo	Nintedanib	Placebo	Nintedanib		
SGRQ total score	−0.10 (*n* = 164)	−0.01 (*n* = 321)	0.02 (*n* = 164)	−0.78 (*n* = 321)	−0.25 (−2.66, 2.25)	0.843
SGRQ symptom score	−3.02 (*n* = 165)	−1.77 (*n* = 335)	−3.01 (*n* = 165)	−0.30 (*n* = 335)	1.38 (−2.03, 4.73)	0.439
SGRQ activity score	0.76 (*n* = 165)	0.95 (*n* = 329)	0.00 (*n* = 165)	0.00 (*n* = 329)	−0.07 (−3.13, 0.69)	0.503
SGRQ impacts score	0.79 (*n* = 164)	0.24 (*n* = 326)	0.45 (*n* = 164)	0.00 (*n* = 326)	−0.78 (−3.56, 1.90)	0.583
UCSD-SOBQ	3.30 (*n* = 147)	3.42 (*n* = 300)	2.00 (*n* = 147)	1.00 (*n* = 300)	−1.00 (−4.00, 2.00)	0.648
CASA-Q cough symptom score*	2.27 (*n* = 165)	2.34 (*n* = 338)	0.00 (*n* = 165)	0.00 (*n* = 338)	0.00 (−0.00, 0.00)	0.854
CASA-Q cough impact score*	0.83 (*n* = 165)	1.22 (*n* = 338)	0.00 (*n* = 165)	0.00 (*n* = 338)	0.00 (−3.13, 3.13)	0.733
EQ-5D VAS*	−3.36 (*n* = 163)	0.33 (*n* = 334)	0.00 (*n* = 163)	0.00 (*n* = 334)	3.00 (0.00, 5.00)	0.048

*Decrease in score indicates worsening health; positive differences favor nintedanib (for all other measures, negative differences favor nintedanib).
CASA-Q cough and sputum assessment questionnaire (symptom and impact score), *EQ-5D VAS* EuroQoL 5-dimensional quality of life questionnaire visual analog scale, *FVC* forced vital capacity, *LOCF* last observation carried forward, *PRO* patient-reported outcome, *SGRQ* St George's respiratory questionnaire (total, symptoms, activity and impacts score), *UCSD-SOBQ* University of California San Diego shortness of breath questionnaire

Table S3. Mean and median changes from baseline to week 52 and median differences between nintedanib and placebo in PROs reported by patients with ≤ 5% decline in FVC % predicted over the study period (WOCF sensitivity analysis)

	Mean change from baseline to week 52		Median change from baseline to week 52		Median difference in change from baseline (nintedanib vs placebo)	*P* value
	Placebo	Nintedanib	Placebo	Nintedanib		
SGRQ total score	−0.10 (*n* = 164)	−0.13 (*n* = 319)	0.02 (*n* = 164)	−0.86 (*n* = 319)	−0.33 (−2.73, 2.18)	0.799
SGRQ symptom score	−3.02 (*n* = 165)	−1.93 (*n* = 333)	−3.01 (*n* = 165)	−0.33 (*n* = 333)	1.25 (−2.13, 4.61)	0.479
SGRQ activity score	0.76 (*n* = 165)	0.94 (*n* = 327)	0.00 (*n* = 165)	0.00 (*n* = 327)	−0.08 (−3.13, 0.69)	0.497
SGRQ impacts score	0.79 (*n* = 164)	0.06 (*n* = 324)	0.45 (*n* = 164)	0.00 (*n* = 324)	−0.90 (−3.65, 1.82)	0.528
UCSD-SOBQ	3.30 (*n* = 147)	3.16 ((*n* = 299)	2.00 (*n* = 147)	1.00 (*n* = 299)	−1.00 (−4.00, 2.00)	0.607
CASA-Q cough symptom score*	2.27 (*n* = 165)	2.48 (*n* = 336)	0.00 (*n* = 165)	0.00 (*n* = 336)	0.00 (−0.00, 0.00)	0.897
CASA-Q cough impact score*	0.83 (*n* = 165)	1.49 (*n* = 336)	0.00 (*n* = 165)	0.00 (*n* = 336)	0.00 (−3.13, 3.13)	0.675
EQ-5D VAS*	−3.36 (*n* = 163)	0.36 (*n* = 332)	0.00 (*n* = 163)	0.00 (*n* = 332)	3.00 (0.00, 5.00)	0.045

*Decrease in score indicates worsening health; positive differences favor nintedanib (for all other measures, negative differences favor nintedanib).
CASA-Q cough and sputum assessment questionnaire (symptom and impact score); *EQ-5D VAS* EuroQoL 5-dimensional quality of life questionnaire visual analog scale, *FVC* forced vital capacity, *PRO* patient-reported outcome, *SGRQ* St George's respiratory questionnaire (total, symptoms, activity and impacts score), *UCSD-SOBQ* University of California San Diego shortness of breath questionnaire, *WOCF* worst observation carried forward