Real-World Persistence to Antifibrotic Therapy in Patients With Idiopathic Pulmonary Fibrosis in a Commercial and Medicare Advantage Population

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PURPOSE

- Idiopathic pulmonary fibrosis (IPF) is a progressive and irreversible lung disease that causes lung tissue scarring, leading to impaired respiratory function and a poor prognosis[1]
- Administrative claims data that report persistence and adherence to antifibrotic therapies among patients with IPF are limited[2,3] and reflect older data
- We sought to characterize adherence and persistence to antifibrotic therapy among patients with IPF using contemporary data to better understand utilization outside of clinical trial settings

METHODS

Data Source

- This retrospective cohort study analyzed data from Optum's deidentified Clinformatics® Data Mart Database (Optum CDM ®) from 06/30/16 to 03/31/24

Selection Criteria

- Patients with IPF initiating antifibrotic therapy between 01/01/17 and 03/31/24 were identified and indexed on the date of the first antifibrotic therapy

Inclusion:

(1) ≥1 fill of pirfenidone or nintedanib during the study period; (2) aged ≥18 years at index; (3) ≥1 inpatient or ≥2 outpatient medical claims separated by at least 30 days with a diagnosis of IPF in the 6-month pre-index period; (4) continuous enrollment in the 6-month pre-index period

Exclusion:

(1) Procedure code for lung transplant in the pre-index period; (2) any claim for antifibrotic agents in the pre-index period

Outcomes

- Adherence to therapy was calculated using proportion of days covered (PDC)
- Persistence to antifibrotic therapy was quantified in the post-index period, and patients with any 45-day gap in therapy were deemed nonpersistent
- Patients were censored at the earliest date of switching to the other antifibrotic, receipt of a lung transplant, death, end of continuous enrollment, or end of data

Statistical Analysis

- Chi-square tests were used for categorical variables and Student's t-tests for continuous variables
- Kaplan–Meier was used to assess treatment persistence, and the log-rank test was used to compare differences between initiators of pirfenidone and nintedanib

RESULTS

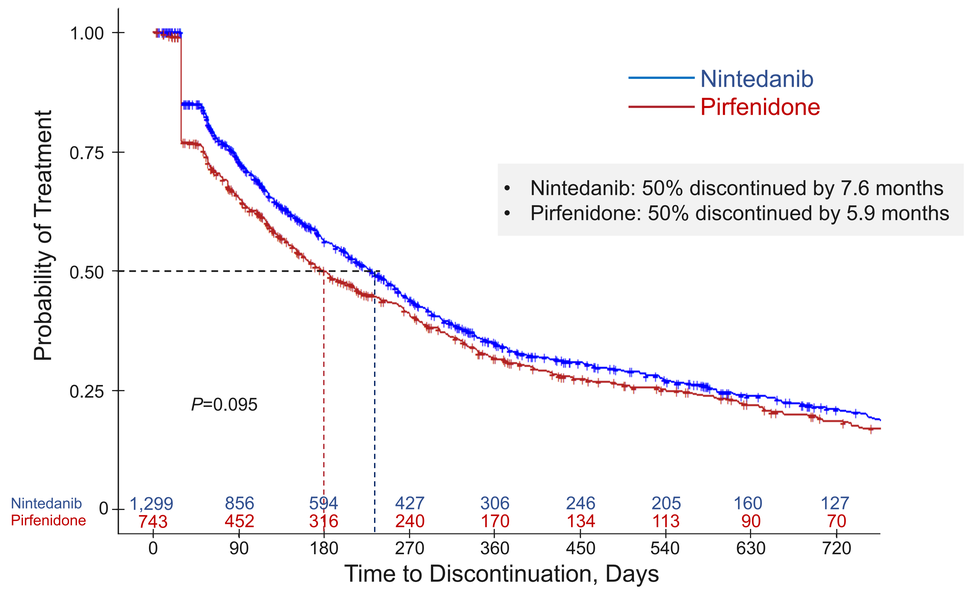
- A total of 2,042 patients were identified, with 743 initiating pirfenidone and 1,299 initiating intedanib
- The mean(SD) age for all patients at initiation was 74(8) years; 38% were female and 84% were White **(Table 1)**
- No differences were observed in baseline characteristics between the populations with the exception of use of oxygen therapy
- The average Quan-Charlson Comorbidity Index (QCCI) score was 3, and 29% had comorbid pulmonary hypertension at treatment initiation

Table 1. Baseline Characteristics

	All Antifibrotics	Nintedanib	Pirfenidone	*P*-Value
N	2,042	1,299	743	
Age (years), mean (SD)	74 (8)	74 (8)	75 (8)	0.289
Sex, male (%)	62%	61%	63%	0.219
Race/ethnicity (%)				0.375
White	84%	84%	85%	
Black	8%	8%	8%	
Asian	4%	4%	3%	
Region (%)				0.236
Northeast	19%	18%	19%	
Midwest	11%	10%	12%	
South	45%	47%	42%	
West	26%	25%	27%	
Type of insurance (%)				0.523
Commercial	12%	12%	13%	
Medicare Advantage	88%	88%	87%	
QCCI, mean (SD)	3 (3)	3 (2)	3 (3)	0.799
Comorbid pulmonary hypertension (%)	29%	29%	29%	0.944
Oxygen therapy (%)	29%	31%	25%	0.004
Pulmonary rehabilitation (%)	7%	7%	7%	0.995

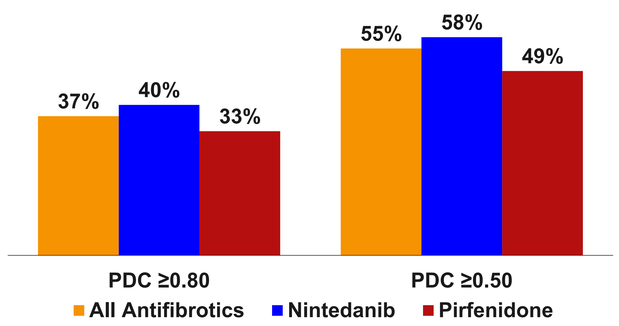
Note: Values may not sum to 100% because of missing, other, or not specified responses

Figure 1. Time to Discontinuation in Patients With Antifibrotics



- The mean(SD) follow-up was 19(18) months
- The discontinuation rate was higher among pirfenidone initiators (74%) compared to nintedanib initiators (70%), though the difference did not reach statistical significance (*P*=0.095; **Figure 1**)
- Across all available follow-up, the mean(SD) PDC was 0.55(0.4), with 37% achieving PDC ≥0.8 and 55% achieving PDC ≥0.5 (**Figure 2**)
- At the end of follow-up, 72% discontinued therapy before censoring, of whom 4% switched antifibrotics, 2% had a lung transplant, 5% died, 8% were lost to enrollment, and 9% made it to the end of the study

Figure 2. Adherence to Antifibrotic Therapy in the IPF Population



CONCLUSION

Patients with IPF have high discontinuation rates shortly after initiation of antifibrotic therapy. This suggests a large unmet need in the treatment of patients with IPF

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