



ESBRIET/ PIRFENIDONE (pirfenidone)

RATIONALE FOR INCLUSION IN PA PROGRAM

Background

Idiopathic pulmonary fibrosis is a progressive condition in which the lungs develop abnormal tissue changes (fibrosis) over time. As a result, patients with IPF experience shortness of breath, and worsening lung function (1).

Esbriet (pirfenidone) belongs to the chemical class of pyridone which acts on multiple pathways that may be involved in the development of fibrotic lung tissue. Its exact mechanism of action is unknown, however, Esbriet may exert antifibrotic properties by decreasing fibroblast proliferation and the production of fibrosis-associated proteins and cytokines; may decrease the formation and accumulation of extracellular matrix (i.e. collagen) in response to transforming growth factor-beta and platelet derived growth factor. Esbriet is also believed to exert anti-inflammatory properties by decreasing the accumulation of inflammatory cells resulting from a variety of stimuli (2-3).

Regulatory Status

FDA-approved indication: Esbriet is a pyridone indicated for the treatment of idiopathic pulmonary fibrosis (IPF) (2).

Patients eligible for clinical studies were to have percent forced vital capacity (%FVC) greater than or equal to 50% at baseline and a percent predicted diffusing capacity of the lungs for carbon monoxide (%DL_{CO}) greater than or equal to 30%. The primary endpoint was the change in percent predicted forced vital capacity (%FVC) from baseline to study end (2).

Esbriet is metabolized primarily (70 to 80%) via CYP1A2 with minor contributions from other CYP isoenzymes including CYP2C9, 2C19, 2D6 and 2E1. A drug interaction assessment needs to be performed before the start of the medication (2).

Esbriet carries warnings for elevated liver enzymes, drug-induced liver injury, photosensitivity, rash, and gastrointestinal disorders. Cases of drug-induced liver injury have been observed with Esbriet. Liver function tests should be conducted prior to the initiation of therapy with Esbriet. Smoking causes decreased exposure to Esbriet, which may alter the efficacy profile of Esbriet. Patients should be advised to stop smoking prior to treatment with Esbriet and to avoid smoking when using Esbriet (2).



**BlueCross
BlueShield**

Federal Employee Program.

ESBRIET/ PIRFENIDONE (pirfenidone)

Safety and effectiveness of Esbriet in patients less than 18 years of age have not been established (2).

Summary

Esbriet (pirfenidone) is a pyridone indicated for the treatment of idiopathic pulmonary fibrosis (IPF). Esbriet carries warnings for elevated liver enzymes, drug-induced liver injury, photosensitivity, rash, and gastrointestinal disorders. Safety and effectiveness of Esbriet in pediatric patients have not been established (2).

Prior approval is required to ensure the safe, clinically appropriate, and cost-effective use of Esbriet while maintaining optimal therapeutic outcomes.

References

1. U.S. National Library of Medicine. (August 2020). Idiopathic pulmonary fibrosis: MedlinePlus Genetics. MedlinePlus. <https://medlineplus.gov/genetics/condition/idiopathic-pulmonary-fibrosis/>.
2. Esbriet [package insert]. South San Francisco, CA: Genentech USA, Inc.; February 2023.
3. Esbriet. Drug Facts and Comparisons. eFacts [online]. Last updated February 2021. Available from Wolters Kluwer Health, Inc.
4. Pirfenidone [package insert]. Berkeley Heights, NJ: Laurus Generics Inc.; April 2022.