Nintedanib in Idiopathic Pulmonary Fibrosis (IPF)

Milano, 25 Novembre 2015
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IPF PATIENTS ARE WALKING ON UNSTABLE GROUND

The course of idiopathic pulmonary fibrosis (IPF) is variable and unpredictable\textsuperscript{1,2}
What is IPF?

- IPF is a progressive, fatal lung disease with a variable and unpredictable clinical course and a median survival time of only 2–3 years from diagnosis\(^1\)

### Risk factors for IPF

- It affects more men than women and most patients are over 50\(^1\)
- Cause of the condition is unknown (idiopathic) but some risk factors have been identified\(^2,3\)
- IPF prevalence is increasing

### Smoking, environmental exposures, abnormal acid reflux and family history of the disease\(^2,3\)

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The burden of IPF

- IPF is a “rare” disease: in EU a disease is considered a rare disease if it affects <5 in 10,000 people across the EU

IPF affects as many as 11.5 people per 100,000

Europe ~85,000*

Germany ~9,000*

Italy ~7,500

United Kingdom ~7,300*

France ~7,600*

*Estimate number of IPF patients based on global prevalence and current population per country

IPF is more deadly than many forms of cancer

- The 5-year survival rate with IPF is 20–40% \(^1\)

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Fibrosis of lung tissue causes loss of lung function\textsuperscript{1,2}

Lungs lose their ability to take in and transfer oxygen into the bloodstream\textsuperscript{3}

Those with IPF experience shortness of breath, cough and often have difficulty with everyday physical activities\textsuperscript{4}

\textsuperscript{1}Selman M, et al. \textit{Ann Intern Med.} 2001;134:136–51
\textsuperscript{2}NHLBI, NIH. What Is Idiopathic Pulmonary Fibrosis? nhlbi.nih.gov/health/health-topics/topics/ipf# Accessed March 2015
\textsuperscript{3}Collard H, et al. \textit{Am J Respir Crit Care Med.} 2007;176:636–643
Diagnosis

• More than 80% of patients with IPF have a distinctive, Velcro-like crackle, easily detected through a stethoscope\(^2,3,4\)

• High resolution CT scan: honeycombing\(^1\)

• Lung biopsy (in some cases)\(^1\)

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Nintedanib in Idiopathic Pulmonary Fibrosis

Mechanism of Action and Clinical Benefits
Nintedanib is an indolinone derivative discovered from a chemical programme designed for receptor tyrosine kinase inhibitors for the treatment of cancer.

- Nintedanib targets the vascular endothelial growth factor (VEGF), platelet-derived growth factor (PDGF) and fibroblast growth factor (FGF) receptors

- Nintedanib acts by blocking the intracellular ATP binding site of the receptors and with it activation and signaling cascades mediated by these receptors

Nintedanib inhibits the activation of the signalling pathways involved in the pathogenesis of IPF

Nintedanib inhibits proliferation and migration of fibroblasts, myofibroblasts with a reduction in the synthesis and deposition of extracellular matrix in the lung.
The OFEV® (nintedanib) story

1998: BI first investigates nintedanib

2007: Nintedanib enters Phase II IPF clinical trials

2011: Nintedanib enters Phase III IPF clinical trials

2014: FDA approves OFEV® in the US

2014: INPULSIS® data presented at ATS

2015: OFEV® approved in the EU
FDA News Release

FDA approves Ofev to treat idiopathic pulmonary fibrosis

For Immediate Release

October 15, 2014

“Today’s Ofev approval expands the available treatment options for patients with idiopathic pulmonary fibrosis, a serious, chronic condition,” said Mary H. Parks, M.D., deputy director of the Office of Drug Evaluation II in the FDA’s Center for Drug Evaluation and Research.

“Providing health care professionals and patients with additional treatment options helps enable appropriate care decisions based on a patient’s need.”

The FDA granted Ofev fast track, priority review, orphan product, and breakthrough designations. Ofev is being approved ahead of the product’s prescription drug user fee goal.

3 March 2015
EMA/COMP/194212/2013 Rev.1
Committee for Orphan Medicinal Products

**Update:** nintedanib (Ofev) has been authorised in the EU since 15 January 2015. Ofev is indicated in adults for the treatment of Idiopathic Pulmonary Fibrosis (IPF).

Opinions on orphan medicinal product designations are based on the following three criteria:

- the seriousness of the condition;
- the existence of alternative methods of diagnosis, prevention or treatment;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the EU) or insufficient returns on investment.
Summary of efficacy findings from the INPULSIS® trials

Nintedanib 150 mg bid is the first treatment for IPF that has consistently been shown to slow disease progression in all subgroup patients with IPF independently of the severity of lung function impairment by significantly reducing the annual decline in lung function by approximately 50%.

This clinically relevant effect of nintedanib on disease progression was supported by:

- A significant reduction in the risk of adjudicated confirmed exacerbations of 68% in a pre-specified sensitivity analysis.
- A numerical reduction in all-cause mortality of 30%.
- Consistent results across a range of lung function endpoints.
- A manageable side-effect profile.
Nintedanib
a major contribution to patient care
and a new therapeutic
approach for IPF