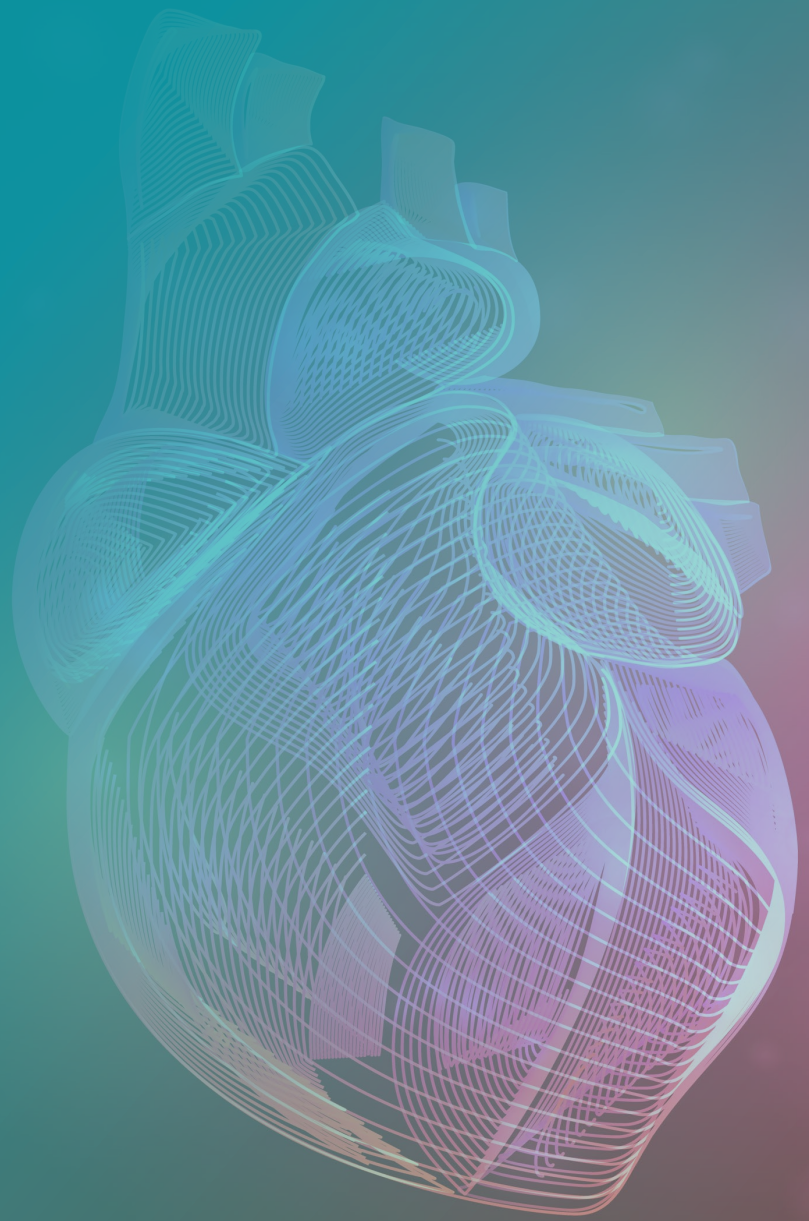


TENAX THERAPEUTICS

August 2021
Corporate Presentation

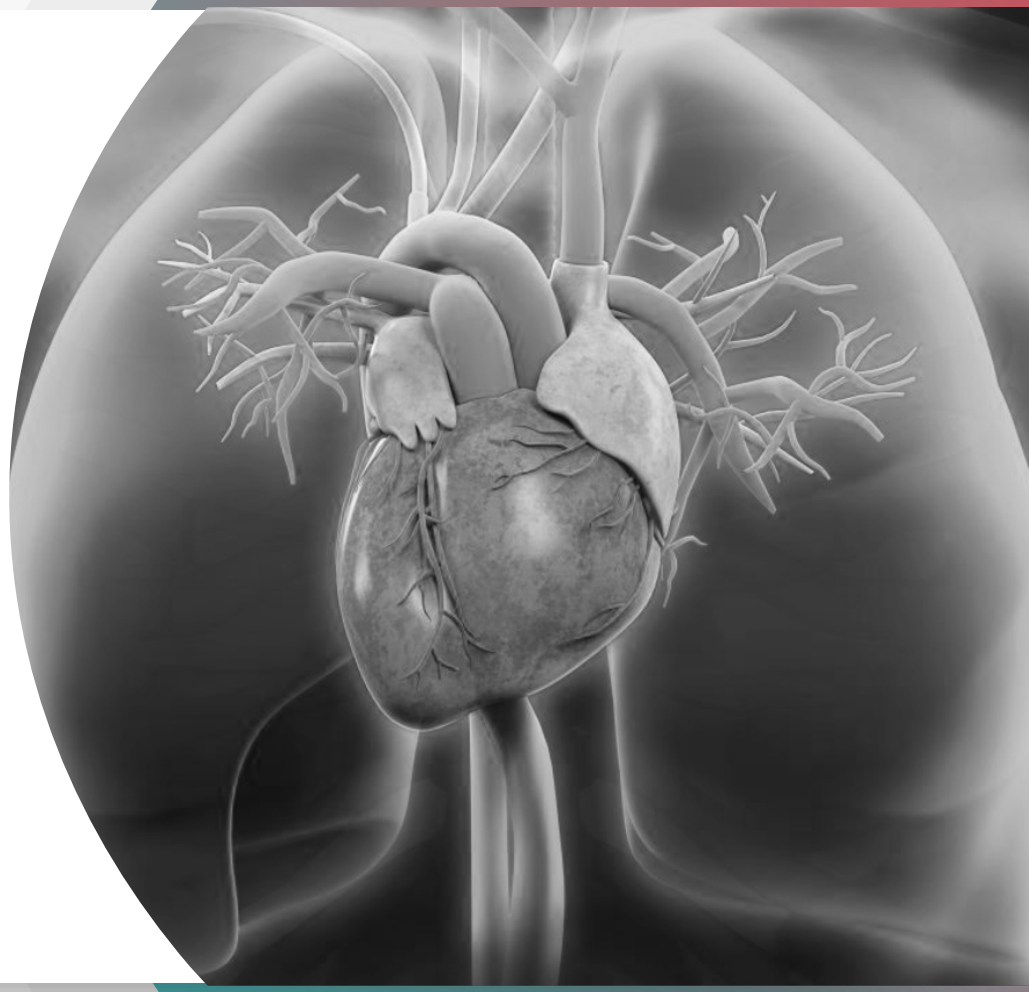
NASDAQ TENX

Safe Harbor Statement

This presentation contains certain forward-looking statements by the Company that involve risks and uncertainties and reflect the Company's judgment as of the date of this release. The forward-looking statements are subject to a number of risks and uncertainties, including, but not limited to matters beyond the Company's control that could lead to delays in the clinical study, new product introductions and customer acceptance of these new products; matters beyond the Company's control that could impact the Company's continued compliance with Nasdaq listing requirements; the impact of management changes on the Company's business and unanticipated charges, costs and expenditures not currently contemplated that may occur as a result of management changes; and other risks and uncertainties as described in the Company's filings with the Securities and Exchange Commission, including in its annual report on Form 10-K filed on March 31, 2021, its quarterly report on Form 10-Q filed on August 16, 2021, as well as its other filings with the SEC. The Company disclaims any intent or obligation to update these forward-looking statements beyond the date of this release. Statements in this press release regarding management's future expectations, beliefs, goals, plans or prospects constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995.

Mission Statement

Specialty pharmaceutical company focused on identifying and developing therapeutics that address cardio-pulmonary diseases with high unmet medical need, with an initial therapeutic focus on pulmonary hypertension



Scientific Advisory Board

World Recognized Experts in Pulmonary Hypertension and HFpEF

Stuart Rich, MD Chief Medical Officer

Professor of Medicine, Northwestern University Feinberg School of Medicine

Previous FDA Cardio-Renal Advisory Committee Member

Sanjiv Shah, MD

Professor of Medicine, Northwestern University Feinberg School of Medicine

Director, Northwestern HFpEF Program, Bluhm Cardiovascular Institute

Daniel Burkhoff, MD, PhD

Director Heart Failure, Hemodynamics and MCS Research at the Cardiovascular Research Foundation

Adjunct Associate Professor of Medicine, Columbia University

Barry Borlaug, MD

Professor of Medicine, Mayo Clinic Alix School of Medicine

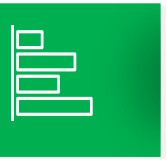
Chair for Research, Division of Circulatory Failure,

Tenax Therapeutics Investment Summary

Two Phase 3-ready Drug Programs Addressing Both Orphan and Large CV Markets With Significant Unmet Need.
IMATINIB: Pulmonary Arterial Hypertension (PAH) **LEVOSIMENDAN:** Pulmonary Hypertension From Left Heart Disease

Trial enrichment, formulation improvements, and alignment with FDA significantly de-risks Phase 3 clinical development

Experienced management and board with strong track record of success



Comprehensive IP strategy to safeguard product exclusivity

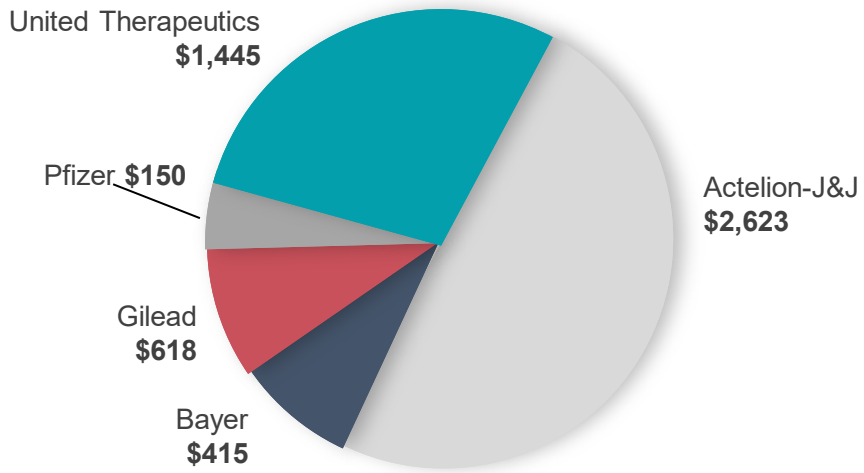
Tenax Market Opportunities

Addressing Large Patient Population And Orphan Disease Markets With Significant Unmet Medical Need

Imatinib

Pulmonary Arterial Hypertension (PAH)

PAH market now stands $5B+, yet no available disease modifying treatments *



IMATINIB: First disease-modifying treatment

Levosimendan

Pulmonary Hypertension Due To Left Heart Disease (PH-HFpEF)

Approximately 1.5M U.S. patients with no approved drug therapies

Completely Open Market Opportunity

LEVOSIMENDAN: First available & First-in-class treatment

** Company Annual Reports*

Both PAH and PH-HFpEF with >50% five-year mortality rate

TENAX THERAPEUTICS

Imatinib Development Program for Pulmonary Arterial Hypertension

Overview of Pulmonary Arterial Hypertension (PAH)

The Disease:

WHO Group 1 Pulmonary Hypertension

Progressive, fatal orphan disease with no cure

Characterized by excessive proliferation of small pulmonary arteries

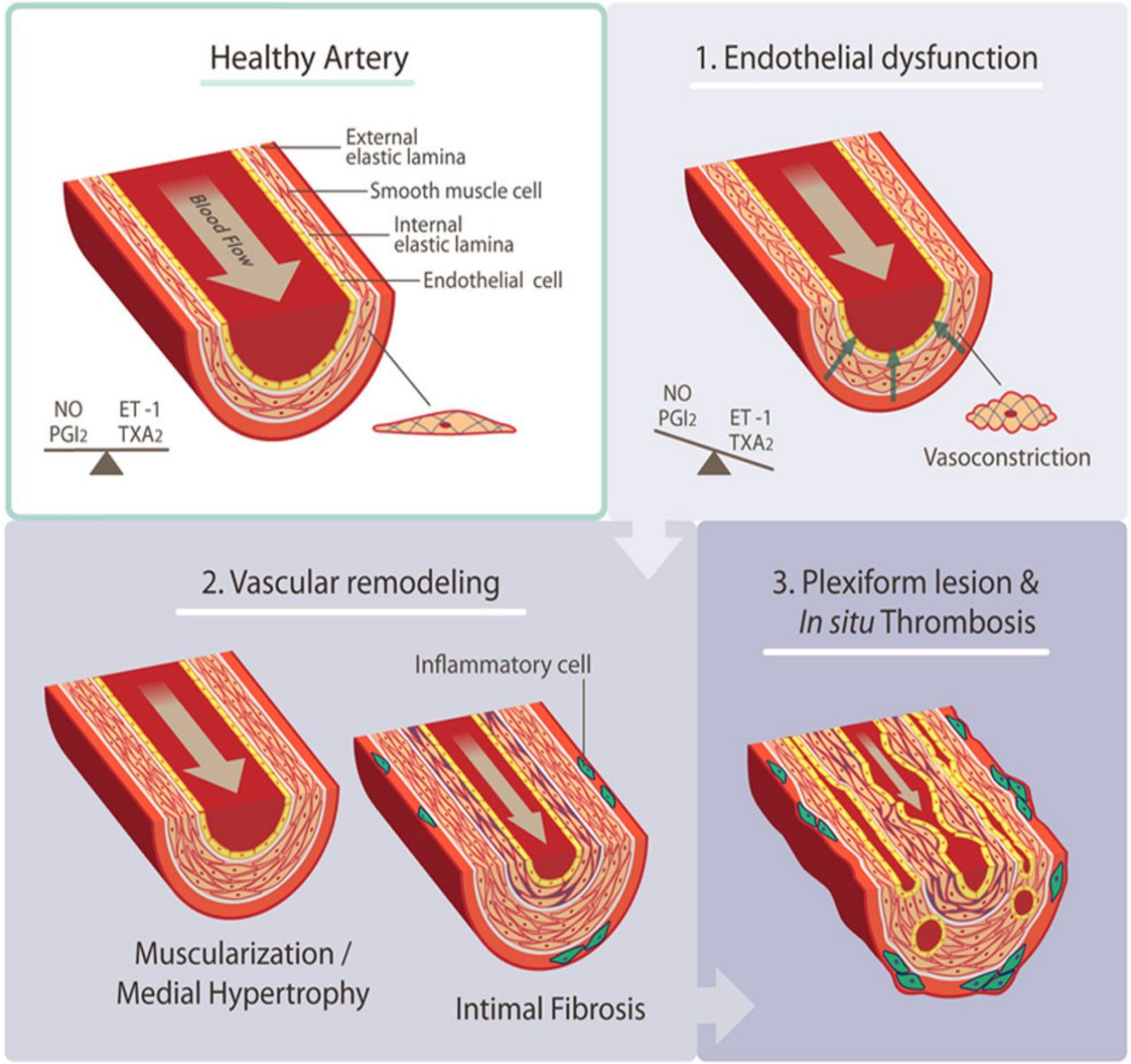
- Analogous to what is seen in cancer

Elevated pulmonary arterial pressure leads to right heart failure with **57% survival at 5 years** with current therapies*

Large unmet clinical need with no disease-modifying treatments available

*Chest 2015;148:1043-54

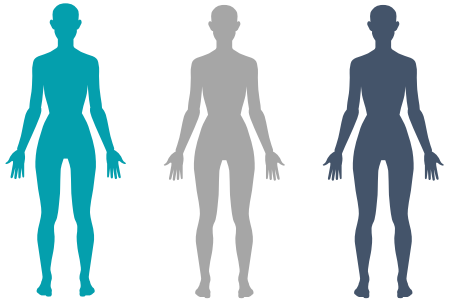
Overview of PAH:
The Pathology



Overview of PAH

Existing Branded and Generic Pulmonary Vasodilators

Expensive drugs that do not affect disease progression	
5 Prostacyclin pathway agonists	$150,000 - $400,000/year
3 Endothelin receptor antagonists	$80,000/year
1 Soluble guanylate cyclase stimulant	$110,000/year
2 Phosphodiesterase type 5 inhibitors	$50,000/year



Since no existing treatment has been shown to halt progression or induce regression of the disease, **every patient will be a potential candidate**

(~45K PAH patients in U.S.)

Overview of PAH

The Solution: IMATINIB

- Tyrosine kinase inhibitor, discovered in 1992
- Developed by Novartis as the first curative treatment of chronic leukemia (Gleevec®)
- Considered one of the greatest breakthroughs in cancer research

Rationale for Imatinib

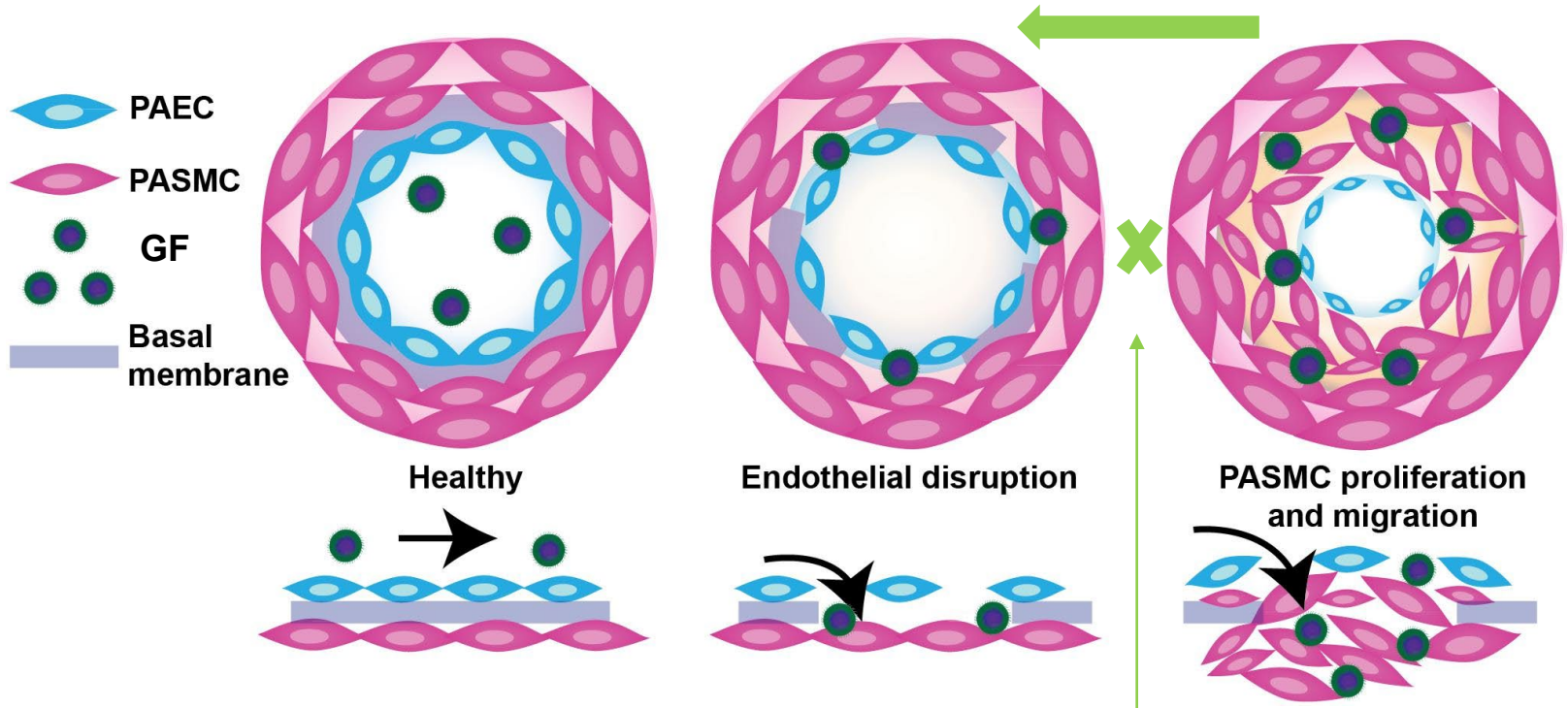
Imatinib Targets the Pathophysiology of PAH

Imatinib is a tyrosine kinase inhibitor of PDGF, c-KIT, and BCR-ABL which are growth factors that regulate endothelial and vascular smooth muscle cell proliferation in PAH

Disease reversal demonstrated by PDGF inhibition with imatinib in animal models of PAH*

*Reversal of experimental pulmonary hypertension by PDGF inhibition.
J Clin Invest 2005;115:2811-2821.

Imatinib Targets the Pathophysiology of PAH



PAEC=pulmonary artery endothelial cell

PASMC=pulmonary artery smooth muscle cell

GF=growth factors

Proof of Concept IMPRES STUDY

Imatinib Proven Effective in Treating PAH

Phase 3 Clinical Trial:

Imatinib Mesylate as Add-On Therapy for Pulmonary Arterial Hypertension: Results of the Randomized IMPRES Study

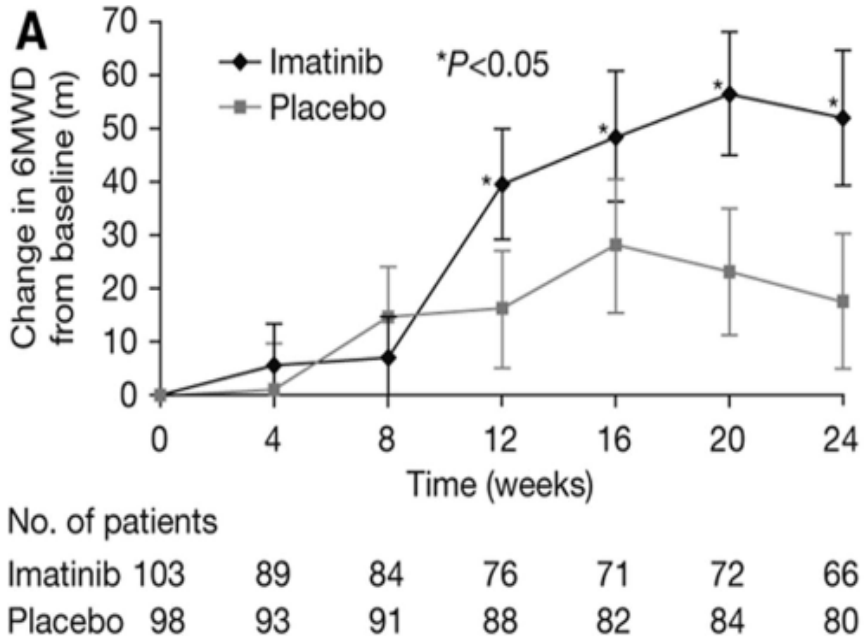
Results: After 24 weeks, the mean placebo-corrected treatment effect on 6-minute walk distance was 32 meters

(95% confidence interval, 12–52; **P=0.002**)

Conclusions: Imatinib improved exercise capacity and hemodynamics in patients with advanced PAH, but **serious adverse events and study drug discontinuations were common**.

Circulation. 2013;127:1128-1138.

The primary endpoint was change in 6-minute walk distance.



Proof of Concept

Imatinib Efficacy and Safety Data From IMPRES Study Provides Guidance for Phase 3

- 400 mg/day confirmed as the most effective dose
- The most frequent AEs, nausea, edema, diarrhea, and vomiting, are all known side effects of imatinib. (No different than what was seen in the oncology trials)
- 27% of patients discontinued because of AEs in the imatinib group compared with 9% in the placebo group, with the majority discontinuing in the first 8 weeks.
- Agreement from FDA that we have diminished the risks of dropouts in our trial design.

Clinical Development Pathway

Phase 3 Clinical Trial Protocol: Imatinib for PAH

- Strong FDA agreement with our clinical trial design to **minimize risks** and **increase likelihood of success** (5/30/2019)
  - Unique formulation with precision dose strategy
  - FDA agreement for small single dose PK study
  - Enriched enrollment design to increase treatment effect
    - Patients screened for level of response to imatinib
  - Enriched enrollment design to eliminate…
    - Patients who have gastric intolerance to imatinib
- FDA recommended application for **breakthrough therapy designation** at time of IND submission.

The Competition

2 Companies are pursuing an inhaled imatinib formula and are planning Phase 2 trials.

Claims that an inhaled route for imatinib has advantages over an oral route are misguided and **unproven**.*

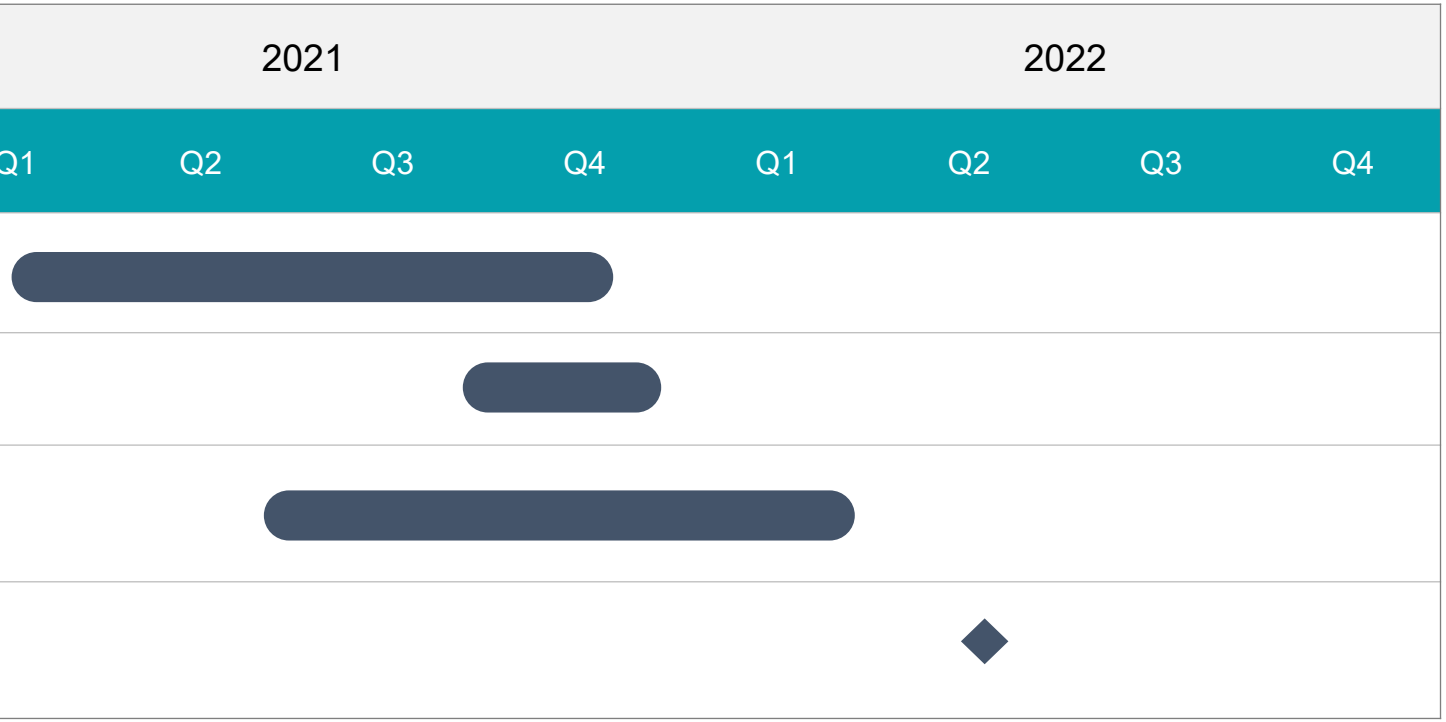
We believe that an inhaled formulation creates **unnecessary risks** compared to the oral route.

- **Oral imatinib** has been shown to produce an **exceptional clinical response** in PAH.
  - The IMPRES trial showed that the appropriate dose is **critical** for a response
- **RISK:** Inhalation is subject to **unpredictable bioavailability** which varies from patient to patient.
- **RISK:** Whether enough drug can be absorbed by inhalation that will be tolerated and effective **remains unknown.**
- **RISK**: Whether it is possible to develop a dosing regimen with inhaled imatinib to achieve meaningful efficacy in patients with PAH **has never been tested.**

*Newman SP. Drug delivery to the lungs: Challenges and Opportunities. *Therapeutic Delivery 2017; 8: 647–661*

Imatinib Projected Development Timelines

Milestones	2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Formulation								
Phase 1 PK								
Phase 3 Clinical Supply Manufacturing								
Phase 3 Initiation								



Imatinib Program Summary

- Potential for **first disease modifying treatment** of PAH
- FDA agreement for a **single Phase 3 clinical trial for approval**
  - Limited Phase 1 PK study after completing formulation work
  - Drug efficacy established; safety well characterized
    - Risks observed in IMPRES trial addressed to maximize efficacy and safety
- **Orphan disease designation** provides:
  - Waiver of $2 million PDUFA fee
  - Market pricing for strong return on investment
  - 7 years market exclusivity in US (10 years EU)
- **Unique formulation strategy** to minimize side effects
- **Breakthrough Therapy Designation** will be sought based on discussion with FDA

Levosimendan Development Program for Pulmonary Hypertension with HFpEF

Circulation

WHITE PAPER

Research Priorities for Heart Failure With Preserved Ejection Fraction

National Heart, Lung, and Blood Institute Working Group Summary

ABSTRACT: Heart failure with preserved ejection fraction (HFpEF), a major public health problem that is rising in prevalence, is associated with high morbidity and mortality and is considered to be the greatest unmet need in cardiovascular medicine today because of a general lack of effective treatments. To address this challenging syndrome, the

Sanjiv J. Shah, MD
Barry A. Borlaug, MD
Dalane W. Kitzman, MD
Andrew D. McCulloch, PhD

Shah SJ, Borlaug BA, et al. Circulation. 2020 Mar 24;141(12):1001-1026.

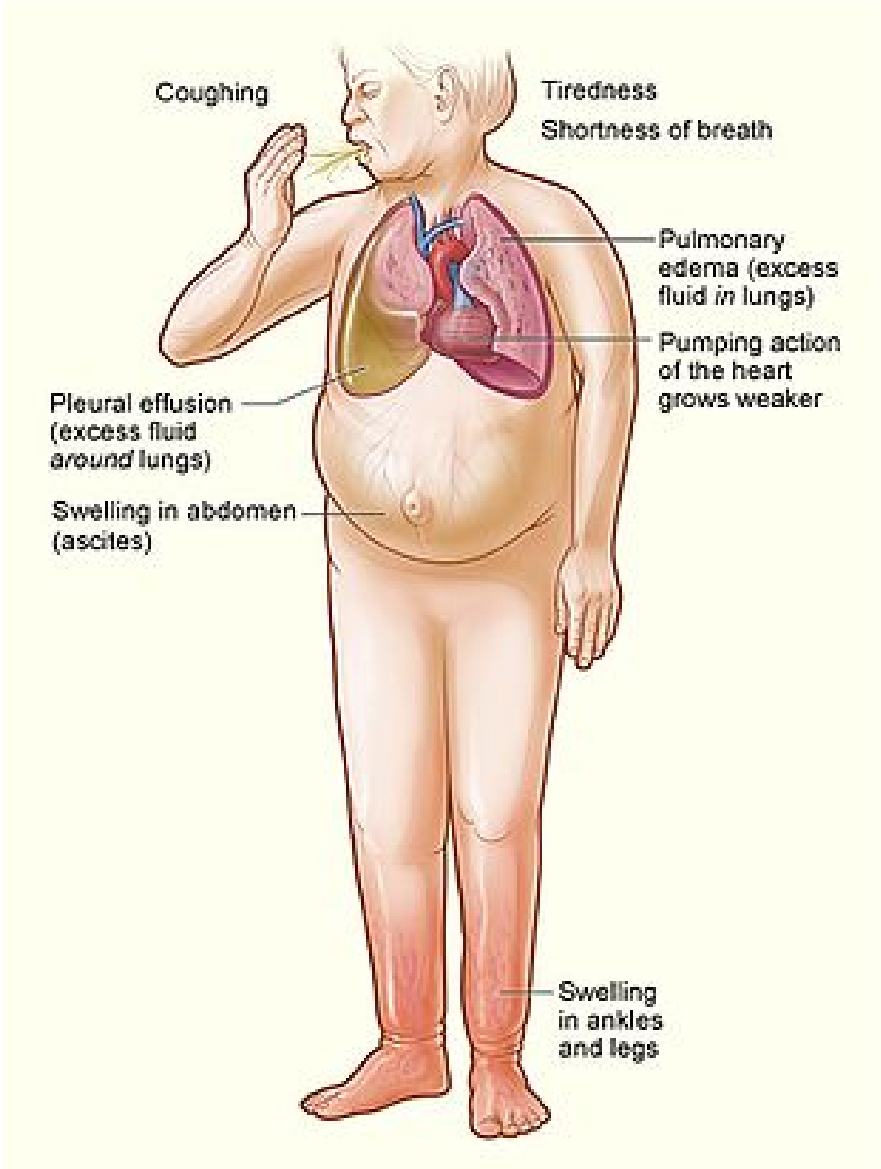
TWO MAJOR TYPES OF HEART FAILURE

- **HFrEF: H**eart **F**ailure with **r**educed **E**jection **F**raction (aka systolic heart failure)
  - 50% 5-year survival
  - **Approved Treatments** include: ACE Inhibitors, Angiotensin Receptor Blockers, Beta Blockers, Mineralocorticoid Receptor Antagonists, Angiotensin Receptor-Neprilysin Inhibitors, If channel inhibitors, Hydralazine, Nitrates

- **HFpEF: H**eart **F**ailure with **p**reserved **E**jection **F**raction (aka diastolic heart failure)
  - 50% 5-year survival
  - **Approved Treatments**: **None** (*all of the above treatments have been tried and have failed*).

Heart Failure: A re-focus on the venous side of the problem

- The traditional focus of heart failure has been on the **arterial circulation**
  - Reduced systolic function with
    - Low blood pressure
    - Low cardiac output
- Recent studies have underscored that the **venous circulation** plays an essential role
  - VOLUME OVERLOAD with
    - Pulmonary congestion
    - Lower extremity edema



What controls the amount of blood in the veins?

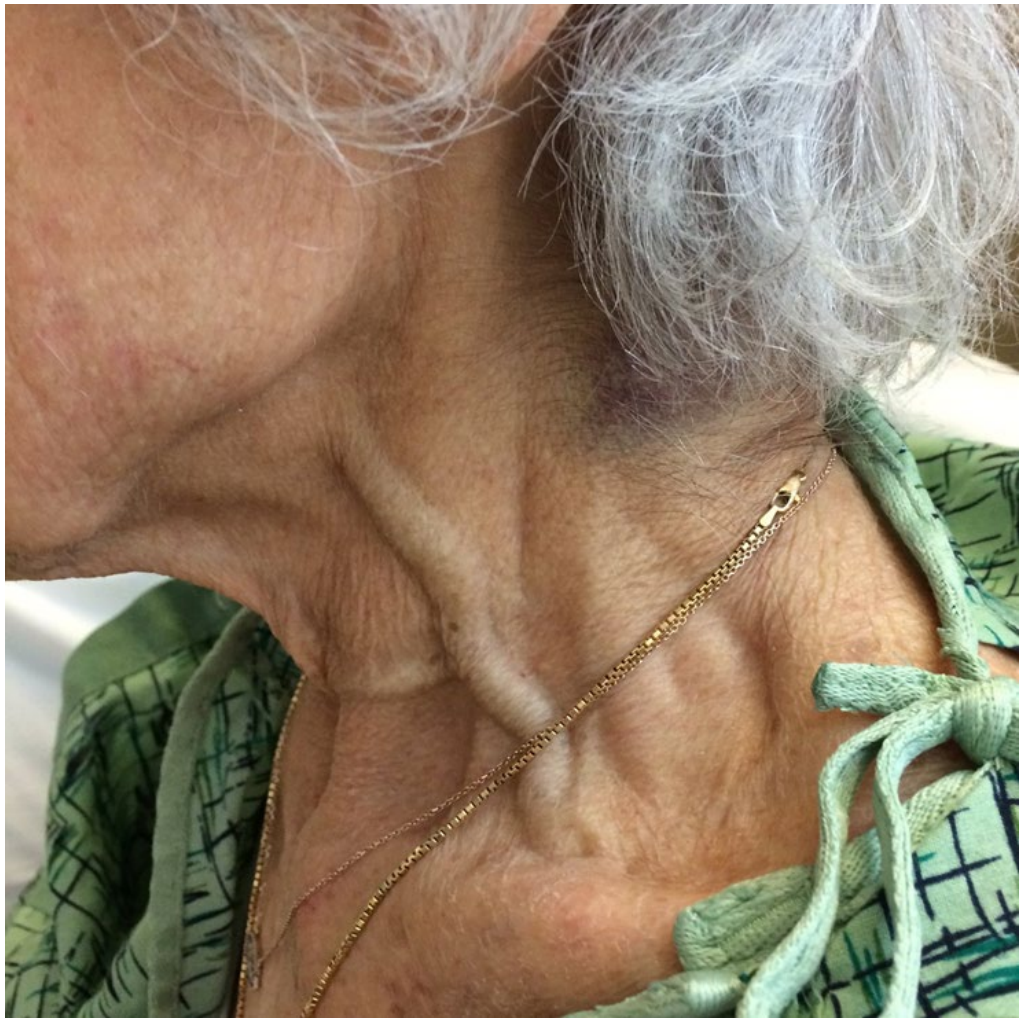
- The veins contain 70% of the blood in the body.
- Half of that is stored in the abdominal organs which serves as a ***reservoir*** to be released when needed.
- The ***sympathetic nervous system*** (i.e. brain) adjusts the amount of blood in the abdomen to keep the pressure in the veins at a normal level.

In stressful conditions (bleeding or “run for your life”) the sympathetic nervous system:

- constricts the veins in the abdomen,
- which squeezes blood out and into the large veins,
- which leads to more filling of the heart (an adaptive mechanism).

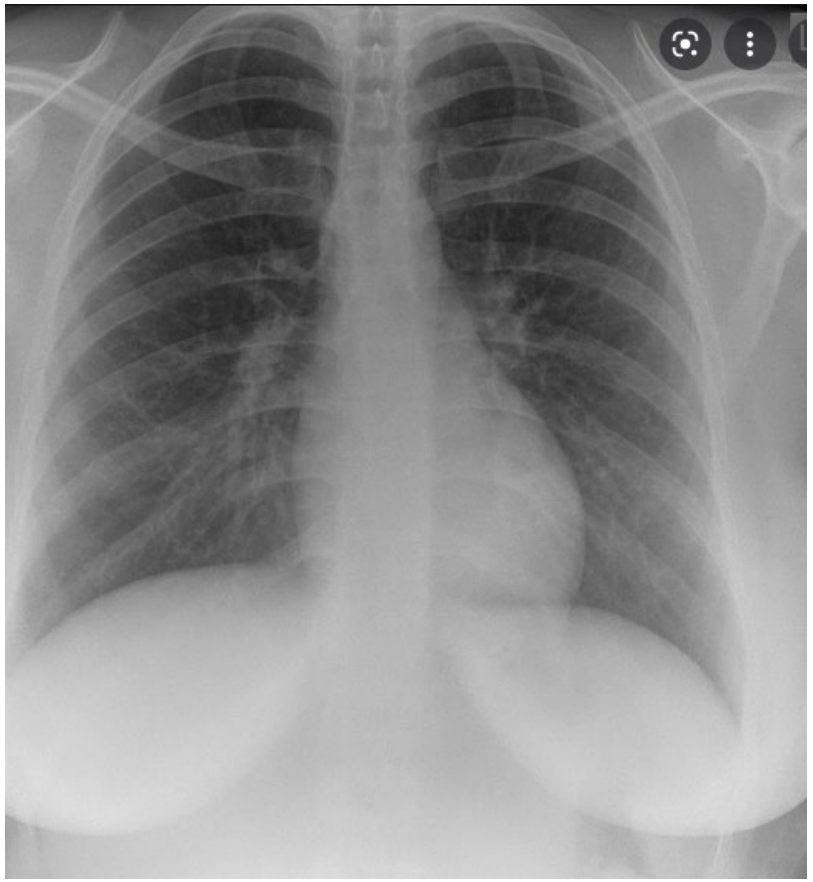
The inability to shut off the increased venous blood flow is the problem in HFpEF

This patient with HFpEF has excessive blood in her veins (referred to as elevated **central venous pressure**).

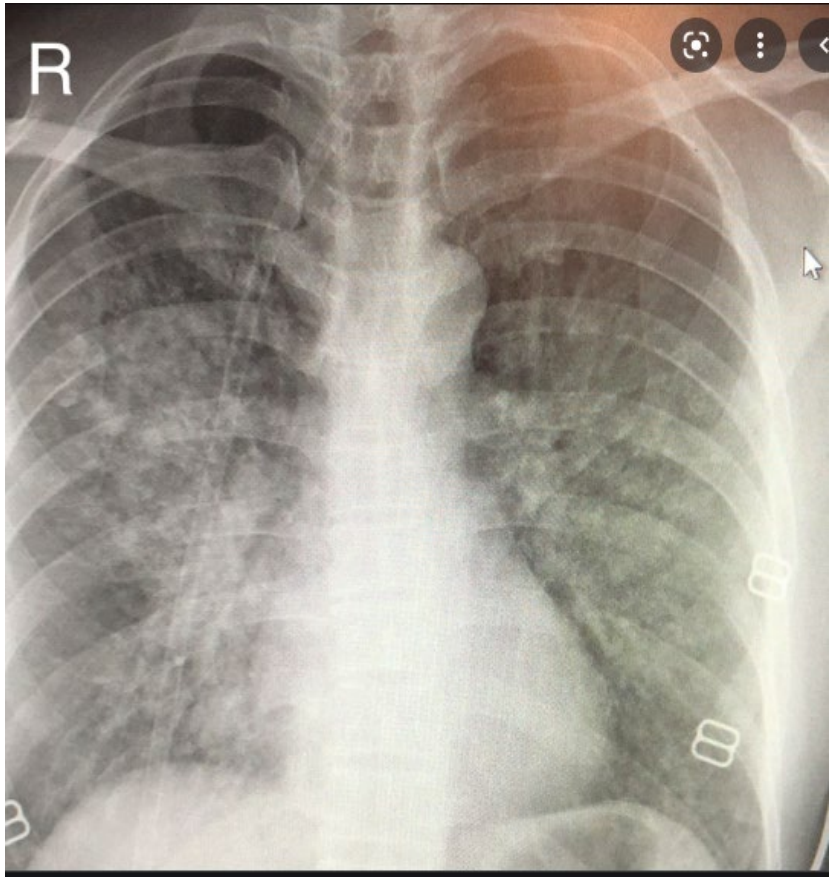


Excessive blood in the lungs (elevated **pulmonary venous pressure**) can make them fill up with fluid

Normal

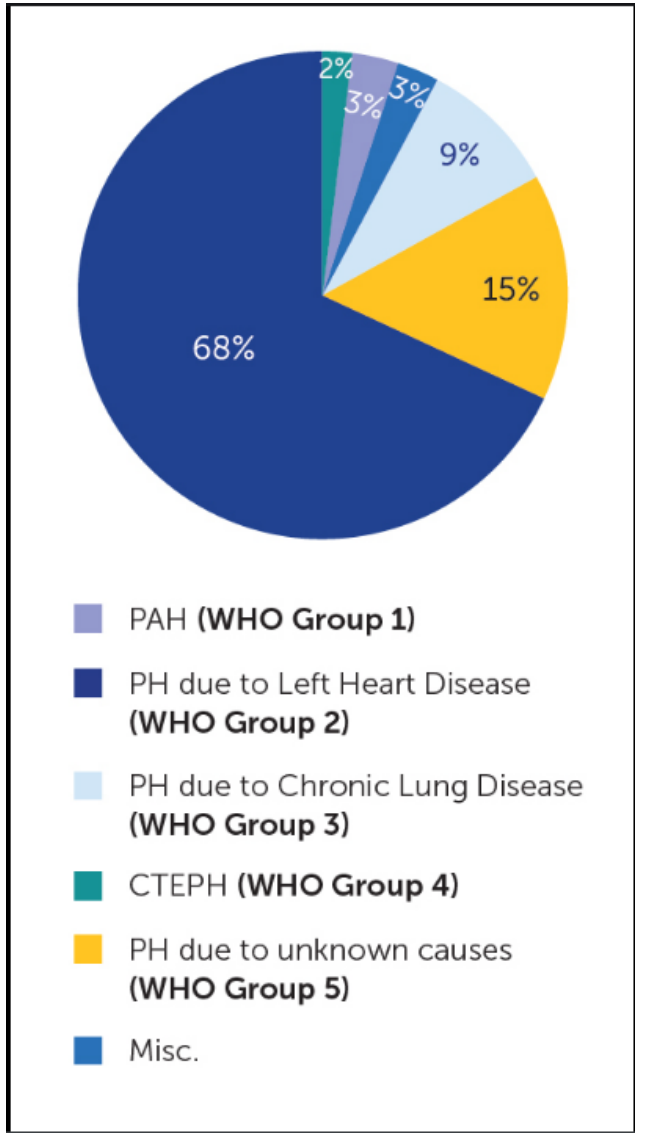


Congested lungs



Why study Pulmonary Hypertension with HFpEF?

- Group 2 PH is the *most common type* of PH in the world.
- It carries a 50% mortality at 5 years, i.e. has a *high unmet medical need*.
- *Most patients* with HFpEF have pulmonary hypertension.
- ***The regulatory pathway for drug approval is far less stringent than it is for heart failure.***



Mechanistic Rationale for Levosimendan

Levosimendan is a unique K+ATP channel activator/calcium sensitizer

- **Hemodynamic effects well documented**
  - **Levosimendan has strong vasodilatory effects on venous beds.**
    - Causes a marked reduction in central venous pressure (CVP)
    - Causes a marked reduction in pulmonary venous pressure (PCWP)

Proof of Concept

Levosimendan Phase 2 trial design

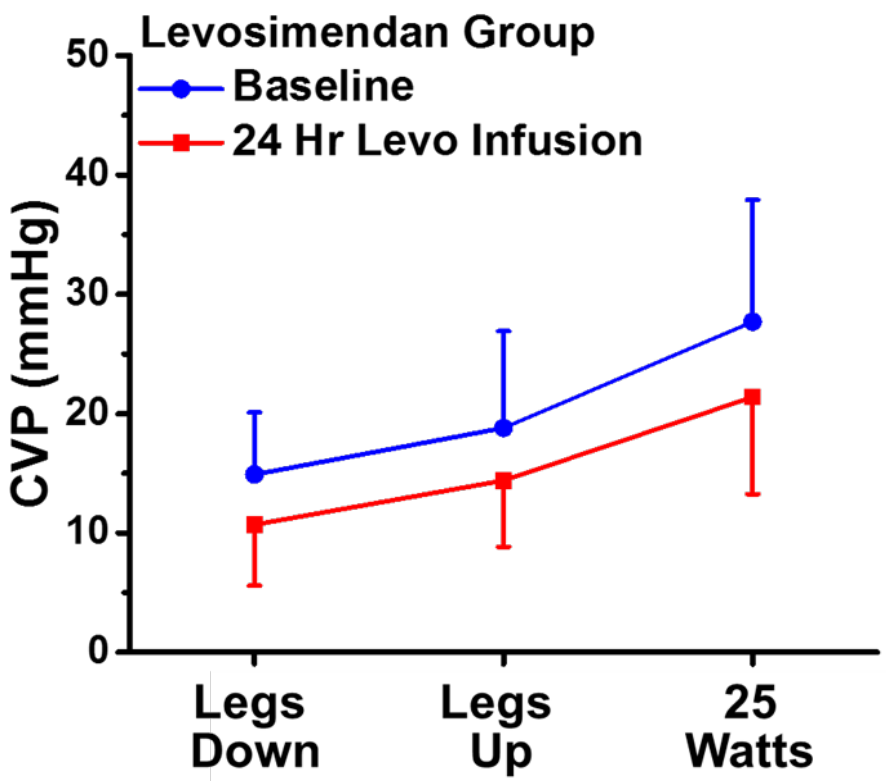
Open label lead-in phase to evaluate the effects of levosimendan on hemodynamics at rest and exercise after 24 hours.

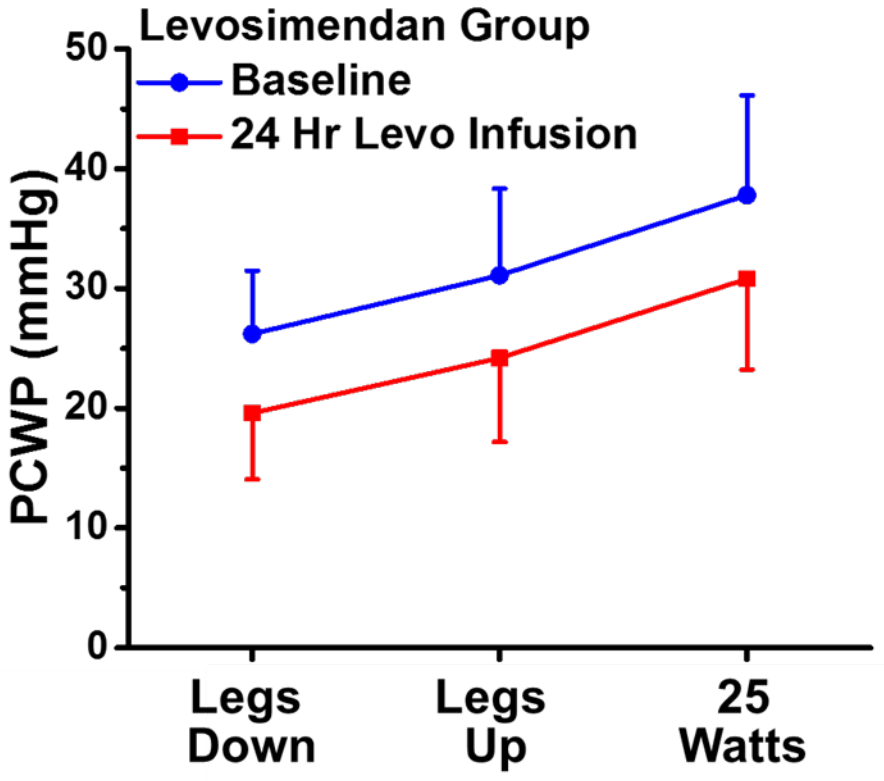
Patients with an initial response were enrolled into randomized, double blinded treatment with once weekly infusions of i.v. levosimendan.

Patients return after 6 weeks for final assessment of 6-minute walk and a hemodynamic study

Proof of Concept

Levosimendan Improves Hemodynamics at Rest and Exercise

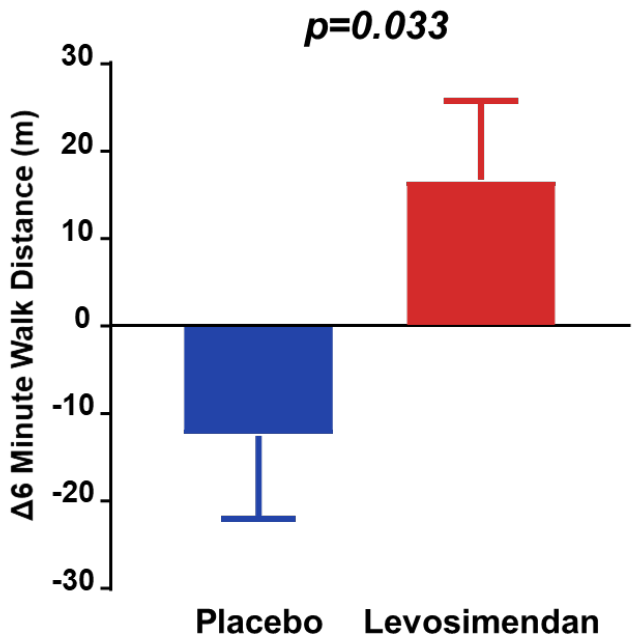




Weekly Levosimendan Dosing Improves Exercise Capacity in PH-HFpEF Patients

(HELP Study at 6 Weeks)

Effects on 6 minute walk distance



Global HFpEF expert:

*"…this is first medicine that has actually improved 6-minute walk distance in **any patient population with HFpEF…**",*

Clinical Development Pathway

Tenax acquired rights to **oral formulation** of levosimendan in Q4 2020.

FDA agreement for use of oral formulation for **single Phase 3 trial** for approval.

Existing patients in open-label IV levosimendan extension trial have been enrolled into **transition study** to oral formulation to determine most effective and best tolerated dose.

Final Phase 3 trial design of oral levosimendan in PH-HFpEF will incorporate data from the open label transition study.

Levosimendan Program Summary

PH-HFpEF is an area of high unmet medical need

- No approved therapies in PH-HFpEF

Commercially attractive market

- Estimated PH-HFpEF prevalence in the US >1,500,000

Levosimendan has unique mechanism of action in PH-HFpEF

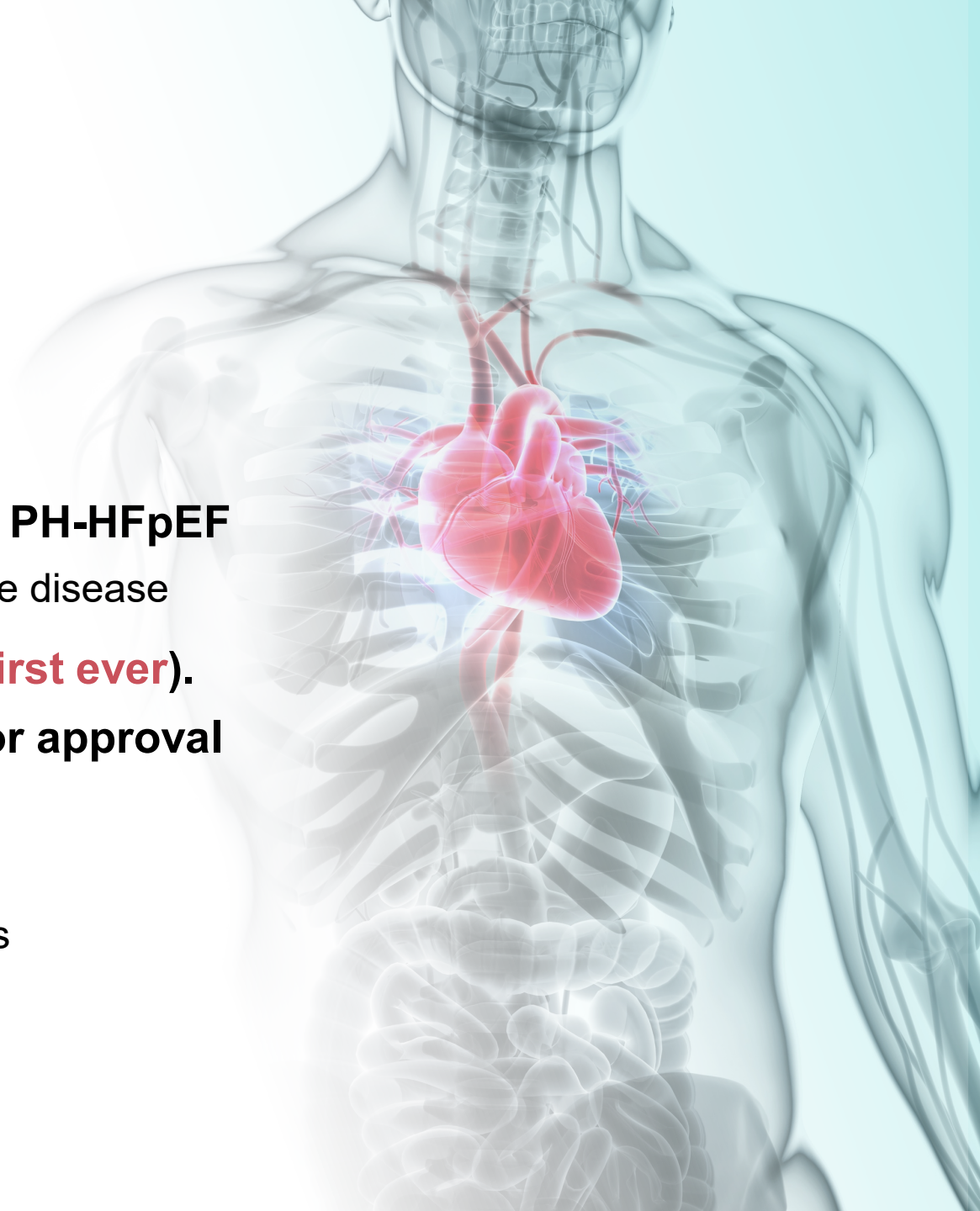
- Targets the physiologic and hemodynamic features of the disease

Positive Phase 2 hemodynamic and clinical data (first ever).

FDA agreement to conduct a single Phase 3 trial for approval

IP/Exclusivity

- Oral Levosimendan exclusivity as NCE
- IP Filed for use in PH-HFpEF and additional formulations



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