The Robyn Barst Lecture:

Translating science into treatments for PAH

Stephen L. Archer, MD

Professor and Head, Dept Medicine, Queen's University Canada Research Chair Mitochondrial Dynamics &Translational Medicine

Drs. Fineman and Adatia
8th International Conference Neonatal and Childhood Pulmonary Vascular
Disease in San Francisco March 26th-28th 2015.



Robyn Barst

- Pioneer
- Fierce
- Persistent
- Opinionated
- Dedicated
- Ambitious
- Articulate
- Focused
- Patient Centered
- Unique



Robyn Barst

April 19, 2013-age 62 years

- MD University of North Carolina 1979
- Fellowship Columbia University College of Physicians and Surgeons 1983
- Robyn is survived by her husband, Dr. Samuel Barst (Section Chief Ped Anesthesia, Westchester, Valhalla) her eldest daughter, Nomi and son-in-law, David Berenson; her youngest daughter, Lindsey and her son-in-law, Jason Gumer; her grandson, Tobias Berenson; her sister, Lynn Hofstra; and her mother, Ruth



Tim Higenbottam-1984

Papworth Heroes



Tim Higenbottam

Consultant Respiratory Physician

Developed the diagnostic which doubled the survival rates of lung transplant patients and co-discovered three medical treatments for pulmonary hypertension.

Tim Higenbottam came to Papworth Hospital in January 1981 as a physician and ran the Regional Respiratory Physiology Laboratory.

Joined by John Wallwork later that year, he introduced transbronchial lung biopsies with the support of pathology colleagues including Peter Stovin, to monitor infection and rejection in lung transplant patients. This doubled patient survival chances.

With colleagues John Wallwork and Francis Wells, Professor Higenbottam began the revolution in the medical care of patients with pulmonary arterial hypertension (PAH) with the discovery that intravenous prostacyclin increased survival. He then co-discovered two further treatments of PAH, inhaled nitric oxide for neonates and oral sildenafil. In the UK some 3,000 PAH patients survive on medical care alone, reducing the need for lung transplant surgery.

After leaving Papworth Hospital in 1995 to become Professor of Medicine in Sheffield, Professor Higenbottam led the collaboration of the UK PAH centres, including Papworth, to establish the National Network of Pulmonary Hypertension Clinics in 2001. These have provided a global standard for the care patients and facilitated advances in scientific knowledge of PAH.

Observing on-off effect Dr H concluded:

"...there was no reversal of the underlying disease process"

Flolan® for PPH

- Burroughs Wellcome sponsored RCT
- "Things did not go well at the start; of the first few patients we started on epoprostenol, one developed a transient ischaemic attack from a paradoxical embolism, one died suddenly, and the third developed pulmonary oedema and died from what we eventually realised was pulmonary veno-occlusive disease. Rubin L, Eur Respir J 2013; 42: 16–17

