



ISHLT Academy: Core Competencies in Pulmonary Hypertension
Tuesday, April 14, 2015
Hermes Theater
Nice Acropolis Congres Centre, Nice, France

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Bayer Healthcare*

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SCIENTIFIC PROGRAM COMMITTEE

Richa Agarwal, MD, Allegheny General Hospital, Pittsburgh, PA, USA
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CONTINUING MEDICAL EDUCATION INFORMATION

Accreditation Statement

The International Society for Heart and Lung Transplantation (ISHLT) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation Statement

ISHLT designates this live activity for a maximum of 9.0 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure

Current guidelines state that participants in CME activities must be made aware of any affiliation or financial interest that may affect the program content or a speaker's presentation. Planners, Faculty and Chairs participating in this meeting are required to disclose to the program audience any real or apparent conflict(s) of interest related to the content of their presentations or service as Chair/Planner. These disclosures will be distributed at the meeting. Additionally, all speakers have been asked to verbally disclose at the start of their presentation if a product they are discussing is not labeled for the use under discussion or is still investigational.

Educational Objectives

Pulmonary hypertension (PH) is a life threatening condition commonly encountered in patients with advanced heart and lung disease. Despite significant advances in the field, patients with PH are complex, their management is challenging and poorly understood, and their survival remains poor. The educational goals of this activity are to provide a concise review of clinical knowledge and essential professional skills to facilitate best practice of surgical and medical aspects involved in the care of patients with pulmonary vascular disease and right ventricular dysfunction, including those with advanced heart and lung disease.

Learning Objectives

At the conclusion of this meeting, participants will have improved competence and professional performance in their ability to:

- 1) Understand the definitions, diagnosis, and classification of patients with pulmonary hypertension
- 2) Recognize the indication and use of available pulmonary hypertension specific therapies
- 3) Understand the epidemiology, pathophysiology, and management principles for the five World Health Organization pulmonary hypertension groups, including patients with advanced heart and lung failure
- 4) Understand indications and timing for advanced therapies in end-stage heart failure.
- 5) Recognize the role of the right ventricle in pulmonary hypertension and understand the management principles for right ventricular failure
- 6) Review perioperative considerations for patients with pulmonary hypertension undergoing surgery, including thoracic transplantation or VAD implantation

Target Audience

While all members are invited to enroll, this course is primarily designed to be of benefit for clinicians and allied professionals who are in the early stages of their careers or who are in training, are part of a new program, or desire an update on the current state of the field. The information presented is intended to provide a strong foundation of the overarching principles of pulmonary hypertension management, rather than as a detailed update for those who are already proficient in the field.

Tuesday, April 14

SCIENTIFIC PROGRAM SCHEDULE

7:30 AM – 8:15 AM REGISTRATION AND MORNING COFFEE

8:30 AM – 8:40 AM WELCOME AND INTRODUCTIONS

Mardi Gomberg-Maitland, MD, MSc, University of Chicago Medical Center, Chicago, IL, USA and Dana P. McGlothlin, MD, Kaiser San Francisco Medical Center, San Francisco, CA, USA

8:40 AM – 9:40 AM SESSION 1: THE OTHER HYPERTENSION

8:40 AM *A Rose by Any Other Name Would Smell as Sweet: Pulmonary Hypertension Classification and Diagnosis*

Mardi Gomberg-Maitland, MD, MSc, University of Chicago Medical Center, Chicago, IL, USA

Teaching/Discussion Points

- a. Definitions and hemodynamic classification of pulmonary hypertension
- b. WHO clinical classification
- c. Diagnostic evaluation

9:00 AM *Marriage Between the Right Ventricle and Pulmonary Artery: The Friendship and the Fights*

Simon R. Gibbs, Hammersmith Hospital, London, United Kingdom

Teaching/Discussion Points

- a. Normal RV morphology, physiology and function
- b. RV adaptation to pressure overload
- c. RV/PA coupling and ventricular interdependence
- d. Pathophysiology of RV failure and the right heart failure syndrome in PH

9:20 AM *Nuts and Bolts of Right Heart Catheterization*

Thenappan Thenappan, MD, University of Minnesota, Minneapolis, MN, USA

Teaching/Discussion Points

- a. Pulmonary artery catheter and how to perform a diagnostic right heart catheterization
- b. Common mistakes and pitfalls with hemodynamic measures
- c. Indications and performance of vasoreactivity testing
- d. When to consider left heart catheterization for LVEDP assessment

9:40 AM - 11:50 AM SESSION 2: PULMONARY ARTERIAL HYPERTENSION: WHO GROUP 1 PH

9:40 AM PAH Epidemiology and Basic Science for Clinicians

Paul A. Corris, MB, FRCP, Freeman Hospital, Newcastle Upon Tyne, United Kingdom

Teaching/Discussion Points

- a. Pathology and pathobiology of PAH
- b. Registries and epidemiology of PAH subtypes
- c. Genetics of PAH

10:00 AM Risk Prognostication in PAH: Why, When, and How

Raymond L. Benza, MD, Allegheny General Hospital, Pittsburgh, PA, USA

- a. Importance of risk assessment
- b. Key components of risk assessment and why they are important
- c. Utilization of risk assessment tools in the management of PAH
- d. When to assess risk and what to do about it therapeutically

10:20 AM PAH Drug and Management Guidelines: Drilling Down the Essentials

Dana P. McGlothlin, MD, Kaiser San Francisco Medical Center, San Francisco, CA, USA

Teaching/Discussion Points

- a. Adjunctive therapies and calcium channel blockers
- b. Timeline of available PAH therapies
- c. Pivotal trials
- d. Updated treatment algorithm

10:40 AM – 11:00 AM COFFEE BREAK

11:00 AM When Medical Therapy is Not Enough: Management of Advanced PAH

Myung H. Park, MD, University of Maryland School of Medicine, Baltimore, MD, USA

Teaching/Discussion Points

- a. Indications for lung transplantation in PAH
- b. LAS score and its pitfalls
- c. Timing and utilization of atrial septostomy
- d. Mechanical circulatory support indications
- e. Palliative/hospice care

11:20 AM Case Presentation, Richa Agarwal, MD, Allegheny General Hospital, Pittsburgh, PA, USA

Case Moderator: Rogerio Souza, MD

Panel Discussants: Mardi Gomberg-Maitland, Simon Gibbs, Thenappan Thenappan, Paul Corris, Dana McGlothlin, Raymond Benza, Myung Park

11:50 AM - 1:20 PM SESSION 3: PH DUE TO LEFT HEART DISEASE: WHO GROUP 2 PH

11:50 AM *Epidemiology, Pathophysiology, and Diagnosis of WHO Group 2 PH*

Nazarreno Galie, MD, University of Bologna, Bologna, Italy

Teaching/Discussion Points

- a. Pathophysiology of pulmonary hypertension in left heart disease
- b. Epidemiology and impact of pulmonary hypertension in HFrEF, HFpEF, and valvular heart disease (including patients undergoing surgical and percutaneous, eg TAVR and MitraClip, valve interventions)
- c. Definitions and terminology of WHO group 2 PH
- d. Outcomes and risk predictors, including transpulmonary gradient and diastolic pulmonary gradient

12:10 PM *PH Due to Left Heart Disease: Can it be Treated?*

Jean-Luc Vachiery, MD, Erasme University Hospital, Brussels, Belgium

Teaching/Discussion Points

- a. Therapeutic options
- b. Pivotal trial data
- c. Management guidelines

12:30 PM *Management Principles and Dilemmas for PH and Right Heart Failure in Heart Transplant and LVAD Patients*

Robert P. Frantz, MD, Mayo Clinic, Rochester, MN, USA

Teaching/Discussion Points

- a. Risks associated with pulmonary hypertension in heart transplantation
- b. Management of pulmonary hypertension in heart transplant candidates, including the role of PH specific therapies and LVAD implantation
- c. Management of right ventricular failure in LVAD recipients

12:50 PM *Case Presentation*, Ryan J. Tedford, MD, Johns Hopkins University, Baltimore, MD, USA

Case Moderator: Irene Lang, MD, Medical University of Vienna, Vienna, Austria

Panel Discussants: Nazarreno Galie, Jean-Luc Vachiery, Robert Frantz

1:20 PM – 2:20 PM LUNCH BREAK

2:20 PM – 3:30 PM SESSION 4: WHO GROUP 3 PH: LUNG DISEASES

2:20 PM *Understanding Group 3 PH: The Basics of PH in COPD and ILD*

Fernando Torres, MD, UT Southwestern Medical Center, Dallas, TX, USA

Teaching/Discussion Points

- a. Epidemiology of Group 3 PH
- b. Prognostic significance of PH in COPD and ILD (including idiopathic pulmonary fibrosis and ILD related to connective tissue disease)
- c. Pathophysiology of PH in COPD and ILD, including pulmonary arterial and venous involvement and vasoactive and profibrotic mediators
- d. Significance of PH in advanced lung disease patients being considered for lung transplantation

2:40 PM *How to Treat Group 3 PH Based on Clinical Trials and Clinical Experience*

Fernando Torres, MD, UT Southwestern Medical Center, Dallas, TX, USA

Teaching/Discussion Points

- a. Review the therapeutic options based on clinical trial data in Group 3 PH
- b. Discuss the challenges of mixed PH classification patients

3:00 PM *Case Presentation*, Roberto Badagliacca, MD, PhD, University of Rome Sapienza, Rome, Italy

Case Moderator: John Granton, MD, University of Toronto, Toronto, ON, Canada

Panel Discussant: Fernando Torres

3:30 PM – 4:40 PM SESSION 5: ALL ABOUT CLOTS: GROUP 4 PH

3:30 PM *From PE to CTEPH: Diagnosis and Risk Stratification*

Marion Delcroix, MD, University Hospital Leuven, Leuven, Belgium

Teaching/Discussion Points

- a. Epidemiology with a focus on incidence and risk factors
- b. Review what is known about the evolution from acute to chronic thromboembolic disease
- c. Describe the contribution small vessel arteriopathy plays in the development of CTEPH

3:50 PM *CTEPH Therapies: Surgical, Interventional, and Medical Options*

David P. Jenkins, FRCS, Papworth Hospital, Cambridge, United Kingdom

Teaching/Discussion Points

- a. Describe the issues surrounding operability and PEA surgery
- b. Review the appropriate role for specific medical therapy in CTEPH
- c. Describe balloon pulmonary angioplasty and where it may find a role in treating CTEPH

4:10 PM *Case Presentation*, Olaf Mercier, MD, PhD, Centre Chirurgical Marie Lannelongue, Fontenay aux roses, France

Case Moderator: William R. Auger, MD, University of California San Diego Medical Center, San Diego, CA, USA

Panel Discussants: Marion Delcroix, David Jenkins

4:40 PM – 5:00 PM COFFEE BREAK

5:00 PM – 7:00 PM SESSION 6: WHO GROUP 5 PH AND BEYOND

5:00 PM *Essentials of WHO Group 5 and PAH in Pregnancy*

Dario Vizza, MD, University of Rome, Rome, Italy

Teaching/Discussion Points

- a. Review the causes of PH with unclear/multifactorial mechanisms
- b. Focus on epidemiology, mechanisms of PH and role of PH specific therapies in sarcoidosis and hematologic disorders
- c. Risks and outcomes of PAH and pregnancy

5:20 PM *Surgery and Anesthesia in PH: Risks and Management Principles*

John Granton, MD, University of Toronto, Toronto, ON, Canada

Teaching/Discussion Points

- a. Reported periop morbidity/mortality with cardiac and non-cardiac surgeries in PH patients
- b. Risks of anesthesia and mechanical ventilation in PH patients
- c. Risks of certain operations in patients with PH (eg laparoscopy, lobectomy, orthopedic surgery)
- d. Preoperative considerations and planning
- e. Principles of intra- and post-operative management

5:40 PM *Medical Management of Acute Decompensated RV Failure*

Teresa De Marco MD, FACC, University of California San Francisco, San Francisco, CA, USA

Teaching/Discussion Points

- a. Review the precipitating factors
- b. Discuss management principles, including the role of pulmonary vasodilator therapies, oxygenation, volume management and inopressor use

6:10 PM *Dilemmas in Bridging Strategies for Heart and/or Lung Transplant Candidates with PH*

Walter Klepetko, MD, Medical University of Vienna, Vienna, Austria

Teaching/Discussion Points

- a. Considerations for bridging heart and lung transplant candidates with PH using mechanical support
- b. Short-term mechanical support devices and configuration, including V-V vs V-A ECMO, central vs peripheral cannulation, biventricular support, and NovaLung
- c. Decision tree for choosing type and configuration of mechanical support device
- d. Complications and outcomes

6:30 PM *Case Presentation*, Rebecca Cogswell, MD, University of Minnesota, Minneapolis, MN, USA

Case Moderator: Xavier Jais, MD, Hospital Antoine Beclere, Clamart Paris, France

Panel Discussants: Dario Vizza, John Granton, Teresa De Marco, Walter Klepetko

7:00 PM - 7:10 PM CLOSING ADDRESS

Dana P. McGlothlin, MD, Kaiser San Francisco Medical Center, San Francisco, CA, USA and Mardi Gomberg-Maitland, MD, University of Chicago Medical Center, Chicago, IL, USA