

ISHLT ACADEMY
MASTER CLASS
IN CHRONIC THROMBOEMBOLIC
PULMONARY HYPERTENSION

TUESDAY, APRIL 10, 2018
ERATO AND URANIE

2:00 PM – 7:00 PM



SCIENTIFIC PROGRAM CHAIRS

CO-CHAIRS: **Mardi Gomberg-Maitland, MD, MSc**, Inova Heart and Vascular Institute, Falls Church, VA, USA
David Jenkins, FRCS, Papworth Hospital, Cambridge, United Kingdom

FACULTY

William Auger, MD, UCSD Medical Center, San Diego, CA, USA
Raymond Benza, MD, Allegheny General Hospital, Pittsburgh, PA, USA
John Cannon, FRCP, Papworth Hospital, Cambridge, United Kingdom
Duane Davis, MD, MBA, Florida Hospital, Orlando, FL, USA
Marion Delcroix, MD, PhD, University Hospital Leuven, Leuven, Belgium
Marc De Perrot, MD, Toronto General Hospital, Toronto, ON, Canada
Elie Fadel, MD, Hospital Marie Lannelongue, La Plessis-Robinson, France
Deepa Gopalan, MD, Papworth Hospital, Cambridge, United Kingdom
Irene Lang, MD, Medical University of Vienna, Vienna, Austria
Michael Madani, MD, UCSD Medical Center, San Diego, CA, USA
Takeshi Ogo, MD, National Cerebral and Cardiovascular Center, Osaka, Japan
Joanna Pepke-Zaba, PhD, FRCP, Papworth Hospital NHS Trust, Cambridge, United Kingdom

COURSE SUMMARY

The four topics covered in this Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Master Class include diagnostic challenges/modalities utilized for CTEPH, management strategies of the complex CTEPH patient, interventional approaches and mechanical support, and surgery for CTEPH. The topics cover the major aspects of CTEPH and highlight the significant differences in the diagnosis and management of these entities. Utilizing the concept of “convergent discussion” and audience response system techniques, faculty moderators will use complex clinical situations and controversial statements during practical case presentations in order to direct active audience participation. The aim is to provide specific insights based on current practice gaps and achieve selected learning objectives.

PRACTICE GAPS

1. The multidisciplinary team approach is needed to properly diagnose, assess, and determine operability for CTEPH. The correct interpretation of imaging to select patients who will get a good technical response is not always easy to determine. Therefore, clinical decisions and decisions whether or not to provide operative interventions need to be made with a deep understanding of the pathophysiology of the disease. The established risks and potential benefits that CTEPH treatment may offer, including surgery in this setting, are discussed.
2. The current evidence base regarding the use of vasodilator drugs, instead of or in addition to surgery in technically operable patients, is in evolution. The general timing and use of these pharmaceutical agents is controversial. The criteria for decision making, including clot burden, anatomy of obstruction and the individual patients’ co-morbidities, are also controversial.
3. Although the interventionalists have improved their techniques and understanding of balloon pulmonary angioplasty (BPA), there is still uncertainty surrounding the selection of patients for surgery versus performing BPA versus medical therapy. There is also uncertainty as to the best approach in “segmental CTEPH disease.” This is an area that warrants further studies and discussions by a multidisciplinary group of experts.
4. While surgical techniques for CTEPH patients have improved, advanced endarterectomy techniques may be utilized without a clear standardization of approach. A discussion of the risks/benefits of these techniques is required. Understanding these newer approaches will also help teams to determine whether the best approach is medical, surgical, interventional or a hybrid approach. The peri-operative care techniques and coordination are integral to surgical success but may not be commonly standardized or discussed in detail. This creates a clear need to focus on this aspect of the procedure.

TARGET AUDIENCE

The Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Master Class is an ISHLT educational event intended for specialists with advanced levels of expertise. Ideally, participants will have completed the core competency course on Pulmonary Hypertension (PH), have primary practice in thoracic, cardiothoracic surgery or medical treatment of PH \geq 5 years and/or have managed patients with one or more of the topics intended for discussion. This can include pulmonologists/respirologists, cardiologists, thoracic surgeons, cardiothoracic surgeons, interventional radiologists, interventional cardiologists, nurses, physician assistants and allied health professionals with experience in CTEPH. The course is mainly intended for health care professionals whose primary practice includes care of CTEPH patients and providers who are developing programs for medical, surgical or interventional treatment in this field.

EDUCATIONAL NEED

The field of chronic thromboembolic disease is a changing landscape with increasing evidence for new therapies. Aided by improved diagnostic tools, surgical techniques, the use of interventional approaches and the approval of medical therapies, treatment of the disease also requires a multi-disciplinary team approach and training to understand contemporary decision making. This class is designed to meet the target audience's need for an advanced learning opportunity that explores and seeks to address the unique clinical challenges faced by those caring for patients with CTEPH.

LEARNING OBJECTIVES

After completion of this Master Class, the participant will have improved competence and professional performance in their ability to:

1. Understand the imaging features that indicate operability in CTEPH patients
2. Differentiate low and high risk scenarios for CTEPH interventions
3. Appreciate the evidence gaps relating to the use of vasodilator drugs in CTEPH
4. Acknowledge the overlap in the use of BPA and PEA in patients with segmental CTEPH disease dependent on institutional experience and hence the uncertainty in the current guidelines
5. Understand the advanced technical endarterectomy procedure and care of patients with perioperative complications

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 4.25 *AMA PRA Category 1 Credits*.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ANCC CREDIT

AMEDCO is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This course is co-provided by AMEDCO and ISHLT. The maximum credit is 4.25 contact hours.

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. Please refer to the Participant Notification document for a list of all disclosures. 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.

SCIENTIFIC PROGRAM SCHEDULE

2:00 PM – 2:10 PM

WELCOME AND OVERVIEW

Mardi Gomberg-Maitland, MD, MSc,
Inova Heart and Vascular Institute,
Falls Church, VA, USA

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

2:10 PM – 3:10 PM

SMALL GROUP INTERACTIVE DISCUSSION A: DIAGNOSIS AND ASSESSMENT OF OPERABILITY IN CTEPH

Moderator: Raymond Benza, MD

2:10 PM CASE SCENARIO A1:
*'Proximal' CTEPH with
expected good response
from PEA*

Deepa Gopalan, MD, Papworth
Hospital, Cambridge, United Kingdom

Teaching/Discussion Points

1. Imaging features indicative of operability (V/Q, CTPA, PA gram, MRI)
2. Potential contra-indications to surgery
3. Co-morbidity that may increase risk or reduce benefit
4. Technical operability vs. candidacy

2:40 PM CASE SCENARIO A2:
*Mixed pattern CTEPH
with likely residual
PH after PEA*

William Auger, MD, UCSD Medical
Center, San Diego, CA, USA

Teaching/Discussion Points

1. Balance of hemodynamic findings against segmental obstruction
2. Decision making risk vs benefit relative to other therapies
3. Predicting response and risk of residual PH post PEA

3:15 PM – 4:15 PM

SMALL GROUP INTERACTIVE DISCUSSION B: USE OF VASODILATOR DRUGS PRE- AND POST-PEA

**Moderator: Joanna Pepke-Zaba, PhD,
FRCS**

3:15 PM CASE SCENARIO B1:
*Patient with severe PH
'bridged' with vasodilators
prior to PEA*

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

Teaching/Discussion Points

1. Evidence base for vasodilator drugs in CTEPH
2. Risks/benefits of pre-operative treatment in technically operable patients
3. Need for a RCT

3:45 PM CASE SCENARIO B2:
*Patient with residual
PH post-PEA*

John Cannon, FRCP, Papworth
Hospital, Cambridge, United Kingdom

Teaching/Discussion Points

1. Definition of PH post-PEA
2. Incidence of the problem and prognostic implications
3. Evidence for treatment (CHEST1 study)

4:15 PM – 4:45 PM

COFFEE BREAK

4:45 PM – 5:45 PM

SMALL GROUP INTERACTIVE DISCUSSION C: SELECTION OF PATIENTS TO BENEFIT FROM BPA

Moderator: Duane Davis, MD, MBA

4:45 PM CASE SCENARIO C1:
*Typical patient with
sub-segmental disease
with expected good
outcome from BPA*

Irene Lang, MD, Medical University
of Vienna, Vienna, Austria

Teaching/Discussion Points

1. Features predicting good outcome
2. Starting a program
3. Current optimal technique
4. Decisions on order of treatment and number of sessions

5:15 PM CASE SCENARIO C2:
*Higher risk patient
with less predictable
result from BPA*

Takeshi Ogo, MD, National Cerebral
and Cardiovascular Center, Osaka, Japan

Teaching/Discussion Points

1. Features suggesting complexity, above average risk
2. How many lesions to treat in a session
3. Dealing with complications

5:50 PM – 6:50 PM
SMALL GROUP INTERACTIVE
DISCUSSION D: ADVANCED
PEA TECHNIQUES AND PERI-
OPERATIVE CARE

Moderator: Michael Madani, MD

5:50 PM *CASE SCENARIO D1:*
Successful surgery in a
patient with segmental/
sub-segmental disease

Marc De Perrot, MD, Toronto General
Hospital, Toronto, ON, Canada

Teaching/Discussion Points

1. New classification of disease by level
2. Tricks for developing and progressing a distal dissection plane
3. Knowing limits of operability, when to say “no”

6:20 PM *CASE SCENARIO D2:*
Complexities of post-
operative care, dealing
with complications and
residual PH in the early
post-operative period

Elie Fadel, MD, Hospital Marie
Lannelongue, La Plessis-Robinson,
France

Teaching/Discussion Points

1. Standard post-operative care to minimize complications
2. Treatment of residual PH, airway bleeding, reperfusion injury
3. Use of salvage ECMO and post-PEA BPA and lung transplantation

6:50 PM – 7:00 PM
COURSE SUMMARY AND
ASSESSMENT

Mardi Gomberg-Maitland, MD, MSc,
Inova Heart and Vascular Institute,
Falls Church, VA, USA

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

7:00 PM *ADJOURN*