Friday, April 5, 2013

8:00 - 9:30 AM • Panel 1 - Pulmonary Hypertension and Thoracic Surgery

Moderator: Peter D. Slinger, MD

Following this educational activity, participants should be able to:

1. Discuss recent advances in medical therapy for pulmonary hypertension
2. Understand anesthetic strategies to manage patients with pulmonary hypertension
3. Describe TEE monitoring of patients with pulmonary hypertension

Advances in Therapy for Pulmonary Hypertension - John Granton, MD

Following this educational activity, participants should be able to:

1. Discuss about the causes of pulmonary hypertension that might be faced by the practising anaesthesiologist
2. Develop an approach to management based upon the pathophysiology of pulmonary hypertension
3. Implement strategies to optimize right ventricular function in patients with pulmonary hypertension

Intraoperative Management - Katherine P. Grichnik, MD

Following this educational activity, participants should be able to:

1. Describe the perioperative risks that patients with pulmonary hypertension face after a surgical procedure
2. State the appropriate perioperative monitoring to detect anticipated hemodynamic changes
3. Explain the anesthetic strategies used to mitigate the perioperative risk of morbidity or mortality

Is TEE a useful monitor in Pulmonary Hypertension? - Andrew J. Roscoe, MBChB

Following this educational activity, participants should be able to:

1. Describe echocardiographic features of pulmonary hypertension
2. Describe TEE assessment of right ventricular function
3. Understand the effects of pulmonary hypertension on left & right ventricular function

9:35 - 10:20 AM • Session A: PBLD/Case Conference

Attendees will attend one PBLD or case conference.

Case Conference - Hypoxemia during VATS - Jens Lohser MD; Peter D. Slinger, MD

Following this educational activity, participants should be able to:
1. Explain the factors that allow prediction of desaturation during one-lung ventilation
2. Discuss strategies to avoid hypoxemia during one-lung ventilation
3. Describe the specific problems in treating patients who develop hypoxemia during VATS procedures.

**PBLD 1 - Lung Transplantation - Andrew J. Roscoe, MD; Vera Dossow-Hanford**
At the conclusion of this PBLD, the participant should be able to:
1. Understand the principles of anesthetic induction in a patient with pulmonary hypertension.
2. Develop intraoperative one-lung ventilation strategies.
3. Discuss the role of intraoperative transesophageal echocardiography (TEE) in lung transplantation.
4. Recognise the role of postoperative protective lung ventilation strategies

**PBLD 2 - Awake Video Assisted Thorascopic Surgery (VATS) with MAC - Timothy Jackson, MD; Jagtar Singh Heir, MD**
At the conclusion of this PBLD, the participant should be able to:
1. Compare and contrast "pleuroscopy" under MAC vs. "thoracoscopy" under GA
2. Describe the respiratory (patho)physiology of spontaneous ventilation with induced pneumothorax to achieve lung isolation and one-lung ventilation
3. List the major anesthetic challenges involved with an emphasis on the competing considerations
4. List the possible post-procedural complications, incidence and treatment measures to each.

**PBLD 3 - Extra-Pleural Pneumonectomy - Ju-mei Ng, MD; Charles Hill, MD**
At the conclusion of this PBLD, the participant should be able to:
1. Appreciate the basic steps in the technique of extrapleural pneumonectomy and the anesthetic considerations
2. Understand patient selection criteria and preoperative preparation
3. Recognize the causes of hemodynamic perturbation during different phases of surgery and the immediate postoperative period
4. Discuss the principles of anesthetic management including one-lung ventilation, thoracic epidural analgesia, and optimal fluid management

**PBLD 4 - Airway Surgery - Ferenc Puskas, MD, PhD; Paul Alfille, MD**
At the conclusion of this PBLD, the participants should be able to:
1. Describe the surgical anatomy and techniques of tracheal resection and reconstruction
2. Discuss anesthetic implications, including preoperative evaluation, airway management and intubation, cross-table ventilation and the importance of close communication
3. Understand pro- and cons of early extubation, post-anesthesia care challenges and management of surgical complications following airway surgery

**PBLD 5 - Opioid Tolerant Patient for Thoracotomy - Peter C. MacDougall, MD; George Kanellakos, MD**
After completing the PBLD, the participants should be able to:
1. Identify patients with opioid tolerance presenting for thoracic surgery.
2. Develop a plan to manage the opioid tolerance in the peri-operative period. This includes:
   - Patients on methadone for pain or methadone maintenance.
   - Patients who are NPO.
3. Identify and treat the symptoms of opioid withdrawal in the perioperative period.
4. Recognize of the opioid tolerant patient in the perioperative period
5. Identify intraoperative management strategies for the opioid tolerant patient presenting for thoracotomy
6. Implement perioperative management strategies for the opioid tolerant patient presenting for thoracotomy
7. Recognize role of regional anesthesia in the management of the opioid tolerant patient.

**PBLD 6 - Sleeve Resection - E. Andrew Ochroch, MD; Sherif I Assaad, MBBCCh**
After completing the PBLD, the participants should be able to:
1. Describe the preoperative evaluation for a patient with previous lung surgery
2. Outline an anesthetic plan for thoracotomy for the patient with previous lung resection;
3. Describe an approach and initial workup of intraoperative hypoxemia;
4. Outline initial priorities in the management of intraoperative hypoxemia;
5. Describe the priorities of postoperative care in this setting.

**PBLD 7- Robotic Thoracic Surgery - Brad Steenwyck, MD; Rhett Lyerly, MD**
After completing the PBLD, the participants should be able to:
1. Design the Operating Room layout for efficient and effective RTS unique to site and type of surgery
2. Position patient to minimize positioning injury while enhancing surgical exposure
3. Identify hemodynamic considerations relevant to patient positioning and surgical manipulations
4. Recognize basic and optional monitoring options of the patient during RTS
5. Identify key elements of anesthesia for RTS that deviate from an anesthetic for non-RTS
6. Discuss considerations for case management during the surgical learning curve
7. Discuss potential complications from RTS

**PBLD 8 - Perioperative Arrhythmia Management in Thoracic Surgery - David Amar, MD; Alessia Pedoto, MD**
After completing the PBLD, the participants should be able to:
1. Discuss the incidence and natural history of perioperative arrhythmias
2. Understand biomarkers and their use in prediction of atrial fibrillation
3. Implement prevention strategies
4. Implement treatment of perioperative arrhythmias
5. Understand the role of anesthesiologists in stroke prevention

**PBLD 9 – Leaking Thoracic Aortic Aneurysm - Ricardo Martinez-Ruiz, MD; Jadelis Giquel, MD**
After completing the PBLD, the participants should be able to:
1. Discuss the incidence and natural history of thoracic aneurysm
2. Understand the implications of aneurysm and its impact on airway management
3. Review the typical intraoperative complications associated with thoracic aneurysm
4. Develop strategies to preempt the typical intraoperative anesthetic issues
5. Discuss the issues of lung isolation and transition to ICU care

**PBLD 10 - Do you need Preoperative Pulmonary Function Tests? - Marc J. Licker, MD; Breandan Sullivan, MD**
At the conclusion of this PBLD, the participant should be able to:
1. Discuss the effects of lung resection on postoperative outcome and quality of life
2. Assess patient and procedure-related risk factors in thoracic surgery
3. Interpret the results of spirometry, CO diffusing capacity, CT-scan, lung P/V scintigraphy, peak VO2 (exercise test).
4. Discuss the indications for specific functional tests before thoracotomy

PBLD 11 - Cardiomyopathy and Pulmonary Resection - Randall S. Blank, MD, PhD; Michael J. Andritsos, MD
At the conclusion of this PBLD, the participant should be able to:
1. Discuss the cardiovascular effects of general anesthesia, mechanical ventilation, and one lung ventilation in normal patients.
2. Discuss the implications of general anesthesia, mechanical ventilation, and one lung ventilation on cardiovascular function in patients with severe ventricular dysfunction.
3. Discuss the potential impact of pulmonary resection surgery via thoracotomy and thoracoscopy on patients with severe ventricular dysfunction.
4. Develop anesthetic management strategies to optimize perioperative outcomes in patients with severe ventricular dysfunction undergoing pulmonary resection surgery.

PBLD 12 - Morbidly Obese Patient Undergoing Thoracotomy - Javier H. Campos, MD; Sundar Krishnan, MD
At the conclusion of this PBLD, the participant should be able to:
1. Discuss airway issues related to lung isolation devices and obesity
2. Describe methods of volume control ventilation versus pressure control ventilation in the morbidly obese patient during one-lung ventilation
3. Discuss pain management therapies in the morbidly obese patient
4. Discuss potential intraoperative complications in the morbidly obese patient

PBLD 13 - Post-thoracotomy ICU Management - Andrew Steel, MD; John T Granton, MD
At the conclusion of this PBLD, the participant should be able to:
1. Discuss common complications and their presentation in the immediate postoperative period
2. Describe methods of volume control ventilation versus pressure control ventilation in the immediate postoperative period
3. Discuss pain management therapies in the thoracic surgical patient
4. Discuss intraoperative management and its impact on recovery

10:30 - 11:15 AM • Session B: PBLD/Case Conference
Learning objectives are provided on pages 1 - 4.

11:20 AM - 12:50 PM • Panel 2 - Advances in Thoracic Anesthesia
Moderators: Randal S. Blank, MD, PhD; Javier H. Campos, MD
Following this educational activity, participants should be able to:
1. Utilize radiologic imaging studies to identify and evaluate the clinical significance of mediastinal, pulmonary, pleural, and thoracic vascular pathologies.
2. Discuss the neurobiology and genetic predictors of thoracotomy pain and utilize this understanding to develop an effective plan for the prevention and treatment of pain after thoracotomy
3. Discuss the pathogenesis of pulmonary complications after thoracic surgery and develop strategies to reduce the risk of lung injury in thoracic surgical patients.

**Update on Radiological Images of the Chest - Yoel Siegel, MD**

Following this educational activity, participants should be able to:

1. Correlate chest X-ray with chest CT and identify basic thoracic anatomy.
2. Evaluate mediastinal pathology and the effect on normal thoracic structures, especially airways and vasculature.
3. Characterize lung nodules and masses and their effect on surrounding structures utilizing CT.
4. Identify and evaluate pleural disease and learn how to use CT to assess their etiology and significance.
5. Identify thoracic venous and arterial pathology using contrast enhanced CT.

**Perioperative Pain Management for Thoracotomy - E. Andrew Ochroch, MD**

Following this educational activity, participants should be able to:

1. Describe the natural history of pain resulting from thoracotomy
2. Understand the neurobiology of pain resulting from thoracotomy
3. Compare the attributes of epidural, paravertebral and alternative analgesic techniques
4. Describe genetic effectors of pain response and how we may take advantage of that knowledge to improve perioperative analgesia

**Pulmonary Complications and Outcomes after Thoracic Surgery - Daniel R. Brown, MD**

Following this educational activity, participants should be able to:

1. Discuss patient and procedural factors associated with postoperative respiratory failure.
2. Describe mechanical ventilation strategies associated with improved outcomes in injured lungs.
3. Discuss factors associated with development of lung injury in mechanically ventilated patients with previously healthy lungs.

**1:50 - 3:20 PM • Panel 3 - New Trends in Intraoperative Monitoring of Thoracic Surgical Patients**

*Moderator: Wanda Popescu, MD*

At the completion of this panel the attendee will understand:

1. The functional concept and clinical utility of novel non-invasive and minimally invasive hemodynamic monitors employed during thoracic surgery
2. The clinical importance of cerebral oximetry monitoring in patients undergoing lung resection surgery
3. Concepts of acute lung and/or kidney injury post-thoracic surgery
4. The advantages and possible disadvantages of individualized fluid therapy in patients undergoing one lung ventilation

**Non-invasive and Minimally-invasive Hemodynamic Monitors – Christoph Hofer, MD, DEAA**

**Cerebral oximetry – any value? – Hilary P. Grocott, MD**

**Is individualized fluid management worth the effort? – Wanda Popescu, MD**

**3:25 - 4:10 PM • Session C: PBLD/Case Conference**

Learning objectives are provided on pages 1 - 4.
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Moderators: Peter D. Slinger, MD; Edmond Cohen, MD

Overall Learning Objectives:
At the conclusion of this educational activity, the participant will be able to:
1. Describe an approach to patients who present with preoperative hypotension
2. Discuss preoperative investigation of a patient with a mediastinal mass for biopsy
3. Discuss the implications of new onset atrial fibrillation prior to surgery

Preoperative Hypotension - Dawn Desiderio, MD
At the conclusion of this educational activity, the participant will be able to:
1. Discuss the preoperative assessment for a patient scheduled for a lobectomy, possible pneumonectomy.
2. Discuss the monitoring and induction techniques used to induce a hypotensive patient for thoracic surgery.
3. Discuss and explore the physiologic causes of hypotension and the treatment.

Mediastinal Mass for Bronchoscopy/Mediastinoscopy - Peter MacDougall, MD, PhD
At the conclusion of this educational activity, the participant will be able to:
1. Discuss pre-operative and post-operative planning for the patient with a mediastinal mass for bronchoscopy and mediastinoscopy.
2. Describe an intra-operative anesthetic planning and monitoring for the patient with mediastinal mass for bronchoscopy/mediastinoscopy.
3. Discuss specific oxygenation and ventilation management strategies for the patient with mediastinal mass for bronchoscopy/mediastinoscopy including provisions for emergency management.

New Onset Atrial Fibrillation - David Amar, MD
At the conclusion of this educational activity, the participant will be able to:
1. Discuss incidence and natural history of preoperative atrial fibrillation
2. Implement guidelines to work up the patient
3. Determine treatment of preoperative atrial fibrillation and when to proceed with surgery
4. Recognize role of the anesthesiologist in stroke prevention

Participants will attend 3 of the 6 workshops.

At the conclusion of this educational activity, the participant should be able to:
1. To provide an update and hands on devices/techniques/simulation in thoracic anesthesia
2. Demonstrate latest techniques on bronchial blockers
3. Discuss and demonstrate on cadaver torso regional anesthesia techniques (thoracic epidurals and paravertebral blocks)
4. Discuss the utility of ultrasonography of the chest

**Simulator Workshop on One Lung Ventilation - Adam Levine, MD; Alan J. Sim, MD; Samuel DeMaria, Jr., MD; Andrew Schwartz, MD**

At the conclusion of this educational activity, the participant should be able to:
1. Discuss different scenarios in a simulation during one-lung ventilation
2. Discuss management of hypoxemia during one-lung ventilation
3. Discuss different modes of ventilation/maneuvers including CPAP, PEEP in a simulator
4. Discuss simulator essentials in thoracic anesthesia cases

**Lung Isolation with a Difficult Airway - Ron V. Purugganan, MD; Jagtar Singh Heir, DO; Timothy Jackson, MD**

At the conclusion of this educational activity, the participant should be able to:
1. Discuss the preoperative assessment in patients with difficult airway requiring lung separation
2. Describe the different video laryngoscopes used during difficult airways
3. Describe the tube exchanger technique
4. Describe the use of ancillary devices to successfully secure the airway
5. Discuss the use of fiberoptic bronchoscopes during difficult airway and lung isolation

**Anesthesia for Airway Surgery and Interventional Procedures - Paul Alfille, MD; Stephen Esper, MD; Philip M. Hartigan, MD**

At the conclusion of this educational activity, the participant should be able to:
1. Discuss the use of jet ventilation during interventional procedures
2. Discuss the different techniques during tracheal-bronchial reconstruction
3. Discuss anesthesia techniques during yag laser surgery of the airway
4. Discuss the latest technology/devices used in airway surgery

**An Update on the Use of Bronchial Blockers - Edmond Cohen, MD; Javier H Campos, MD; Lebron Cooper, MD**

At the conclusion of this educational activity, the participant should be able to:
1. Discuss the advantages of bronchial blockers over double-lumen tubes
2. Discuss and demonstrate the use of the following bronchial blockers (Arndt®, Cohen®, and Fuji®)
3. Demonstrate hands on the use of bronchial blockers in the mannequin with the use of flexible fiberoptic bronchoscope
4. Demonstrate anatomy of the tracheobronchial tree with flexible fiberoptic bronchoscopy on the mannequin

**Paravertebral Blocks - George Kanellakos, MD; Gian P. Paparciri, MD; Brandi A. Bottiger, MD**

At the conclusion of this educational activity, the participant should be able to:
1. To discuss and demonstrate the anatomical basis for a successful paravertebral block catheter.
2. To practice imaging techniques with live ultrasound on real patient models.
3. To discuss pharmacologic options for intraoperative and postoperative management of paravertebral infusions.
Lung Ultrasound - Meineri Massimiliano, MD; Katherine P. Grichnik, MD
At the conclusion of this educational activity, the participant should be able to:
1. List the indications for lung ultrasound in the ICU, ER and Post-Anesthesia Care Unit.
2. Describe the technique used to perform lung ultrasound.
3. Apply ultrasound technology for the study of the lung.
4. Review standard echocardiographic views of the lungs and the anatomical correlates.
5. Discuss common pathological findings.

10:50 - 11:50 AM • Debates
Moderator: Edmond Cohen, MD

Thoracic Epidural is the Optimal Analgesia following VATS Lobectomy
PRO: Katherine P. Grichnik, MD
CON: Ferenc Puskas, MD, PhD
At the conclusion of this educational activity, the participants should be able to:
1. Identify the various options for post-operative pain management following VAT procedures.
2. Discuss the alternative for thoracic epidural for VAT.
3. Develop a plan to individually tailored post-operative pain control.
4. Review the risk benefit of thoracic epidural vs. paravertebral block in thoracotomy and VAT.

Bronchial Blocker is the Preferred Airway Device for Lung Isolation with a Difficult Airway
PRO: Dawn Desiderio, MD
CON: Timothy Jackson, MD
At the conclusion of this educational activity, the participants should be able to:
1. Discuss the various endobronchial blockers available for clinical use
2. Understand the benefit and limitation of endobronchial and double lumen tubes for lung separation
3. Examine the rationale of using each of the lung separation devices
4. Adjust the intraoperative management of ventilation using endobronchial blockers vs double lumen tube.