Endobronchial Management of Locally-Advanced Lung Cancer

Matthew Gaudet, MD
Malignant Central Airway Obstruction

- Involvement of trachea, either mainstem bronchus or bronchus intermedius by tumor
- Lumen usually compromised by >50% by time symptoms develop
- Wide spectrum of symptoms
Malignant Central Airway Obstruction

- Approximately 80,000 cases treated in U.S. annually
- 20-30% of lung cancer patients have some central airway involvement
- Primary: Squamous cell, Salivary Gland, Carcinoid, Adenocarcinoma
- Metastatic: Breast, Renal Cell, Colorectal, Melanoma

Types of Airway Obstruction

- Intrinsic
- Extrinsic
- Mixed
Treatment Approaches

• Bronchoscopy
  – Flexible vs. Rigid
• Debridement
• Ablation
  – Immediate
    • Electrocautery
    • APC
    • Laser
  – Delayed
    • Cryotherapy
    • PDT
• Stenting
Debridement

• Mechanical destruction and removal of tumor
• Many possibilities
  – Biopsy forceps
  – Snare
  – Cryo probe
  – Microdebrider
Snare

Cryo Probe
Microdebridement

Lasers

- Multiple options but we most commonly use:
  - Nd-YAG
  - CO2
YAG

CO2 Laser

- Laryngotracheal Stenoses
- Delivered via Laryngoscope or rigid tracheoscope
Cryotherapy

- Anastomotic or iatrogenic strictures, tumors
- Freezes intracellular water
- Temporary vascular stasis
- Collagen and fibrin relatively resistant, preserving ECM and allowing rejuvenative healing response, minimizing scarring

truFreeze
Photodynamic Therapy

• Definitive Therapy for superficial (microinvasive) NSCLC
  – Including carcinoma in situ
• Symptomatic Management for Stage I or II
• Induction for Stage IIIA or IIIB
  – Convert unresectable to resectable
  – Avoid Pneumonectomy
• Palliation

Photodynamic Therapy

• Inject Photosensitizer Day 1
  – Photofrin
• Treat Day 3
• Toilet Bronchoscopy +/- repeat treatment Day 4-5 and Day 7 (if needed)
PDT

Stenting

- Palliation for a terminal process
- Temporizing measure for administration of neoadjuvant or definitive treatment
Conclusion

• With so many options, best choice is usually mix-n-match