Minimally Invasive Esophagectomy for Benign Disease

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Bening End-Stage Esophageal Disorders

- Epidemiologic factors
- Social economic factors
- Environmental habits
  - Chagas Disease
  - Caustic injuries
Esophageal Surgery

- Considerable morbidity/mortality, appreciably higher than other similarly complex operations
- Various options exist for esophageal interposition for benign, but debilitating, end-stage esophageal disorders
  - stomach, colon, or jejunum
Esophagectomy: What is Important?

- Patient selection
  - end-stage esophageal disorders
- Choice of conduit
- Location and technique of anastomosis
- NG tube, feeding tube
- Timing of resumption of oral diet
- Minimally invasive techniques
Choice of conduit

• Much debate exists regarding the ideal esophageal replacement option.
• The conduit choice must be tailored to the individual patient condition
• Unlike malignant processes, the conduit choice for benign disorders must be sufficiently durable and functional.
Choice of conduit

- Colonic interposition meets both criteria
  - Durable and functional
- Technically challenging procedure
  - Several anastomosis
- Small errors in judgment and technique
  - significantly impact graft viability and long-term function
- Late failure to colonic interposition
  - conduit redundancy and severe reflux
Choice of conduit

- Gastric tube also provides durability and functionality
- Stomach is in general affected by primary disease or secondary affected
Standard Resections

• **Open**
  - Ivor Lewis
  - Transhiatal
  - 3-incision (McKeown)
  - Thoracoabdominal

• **Minimally invasive**
  - Thoracoscopic + laparoscopic/laparotomy + cervical
  - Laparoscopic + thoracoscopic
Why consider a less-invasive surgical approach?

• Improve the surgical standard of care
  • Decrease morbidity
  • Shorten hospital stay
  • More rapid return to daily activities

• Need to improve quality of life
Patient & Anesthesia

✓ Double-lumen tube, central line, arterial line
✓ Left lateral decubitus for VATS
  ✓ Flex table at hip
  ✓ Roll patient anteriorly
  ✓ Surgeon on patients left (anterior)
  ✓ Assistant on patients left (anterior)
✓ Dorsal decubitus for laparoscopy
  ✓ Chest hyperextension
Latera

VATS
VATS Mobilization of Esophagus
Laparoscopic Port Placement

• Depends on the conduit
Laparoscopic Steps

- Selection of the colon
- Colectomy
- Transhiatal pull-up
- Cervical anastomosis
- Roux en Y reconstruction
Outcomes after Esophagectomy

- **Preoperative Factors**
  - Age, serum albumin, induction therapy, co-morbidity

- **Technical Factors**
  - Experience, approach, anastomosis, operative time

- **Postoperative Factors**
  - Pneumonia, analgesia
Esophagectomy: Historical Note

2003 – Minimally Invasive Esophagectomy

James D. Luketich