Surgery for achalasia is an anachronism.

John C. Dugal Jr. MD
Outline:

• Overview of achalasia
• Traditional surgical treatments
  – Heller ±fundoplication
• Less invasive treatments
  – Nitrates/Ca channel blockers
  – Botulism toxin
  – Pneumatic dilation
• Defile my opponent
• Local experience
• Bottom line
Achalasia

- 1-6/100,000
- Failure of the esophagus to empty properly
- Presents as dysphagia to solids then liquids, 66% regurgitation, 10% chest pain
- Cause unknown, destruction of Aurbach’s plexus
Workup

- EGD
- Manometry
- Barium esophagram
Manometry

- Elevated resting pressures in esophageal body
- Wide mirrorlike, weak tertiary waves
- Complete absence of peristalsis
- LES resting pressure normal to elevated, incomplete or absent relaxation
• Barium esophagram:
  – Grade 1 <4cm
  – Grade 2 4-6cm
  – Grade 3 >6cm
  – Grade 4 Sigmoid
Development

- Sir Thomas Willis 1672
- Ernest Heller 1913
  - Anterior and posterior
- JH Zaaijer 1923
  - Anterior only
- Shimi 1991 lap
- Pellegrini 1992 VATS
Drawbacks:

- Reflux
- Dysphagia
- Perforations
Reflux

- Peters 2001 J GI Surg 40-60% failure
- Richards 2004 Ann Surg 47.6% failure
Dysphagia

• Luketich 2001 ATS 38% failure
  – 3 re-do, 5 dilation, 3 esophagectomy
Perforations

• Rakita 2005 J GI surgery: 6-10%
• Believed to be highly under-reported
Nitrates/Ca channel blockers

- Wen 2008 Cochrane: transient at best, recommended only in trial setting
Botulism toxin injection

- Andrews 1999 Surg Endoscopy: similar decrease in dysphagia score, not durable
  - 77% reintervention at 324d
  - only 25% conversion to Heller
- Zaninotto 2004 Ann Surg: RCT similar decrease in dysphagia score, not durable
  - 34% symptom free at 2yrs
  - 2004 Surgical Endoscopy cheaper at 2yrs
Dilation
Dilation

• Kadakia 1993 Am J Gastroenterology: 27/29
  – 93.1% success
    • 16 one dilation
    • 5 two dilations
    • 6 three dilations
Dilation

• Katz 1998 Dig Dis & Sciences:
• 72pts mean f/u 6.5yrs
  – 80% single dilation success
  – 85% successful with 2 dilations
  – One 25yr single dilation success
Dilation

• Katsinelos 2005 W J Gastroenterology:
• 39pt mean f/u 9.5yr 13(1) 17(2) 9(3) dilations
  – 78% 5yr
  – 61% 10yr
  – 58% 15yr
Dilation

- Perforation rate 0.1-0.4% ASGE 2006
Surgery long term

- Malthaner 1994 Ann Thor Surg: Heller +Belsey mark IV:
  - 95% 1yr
  - 77% 5yr
  - 68% 10yr
  - 67% 20yr
Patient Preference:

- Katsinelos 2005 W J Gastroenterology: 39/39 chose dilation
Local experience

• Stephen R. Freeman MD
  – 1-2 new dysphagia patients/month
  – Avg. 1 dilation per month
  – 1 perforation, 1 failure of dilation
  – Only 3 pts. preferred surgery first line
Cost

- O’Connor 2002 Dig Dis and Sciences
  - Botox $7011 5yr QALY
  - Dilation $7069 5yr $1348
  - Lap Heller $21,407 5yr $5,376,750
Cost

• Karanicolas 2007 Surg Endoscopy:
  – Dilation $5315 at 5yrs
  – Lap Heller $10,789 at 5yrs
  – “initial LM is a more costly management strategy under all clinically plausible scenarios”
Summary

- Dilation has nearly equivalent results, cheaper, preferred by both patients and providers.
• Specializing in:
  – Lord procedures
  – Belsey Mark IV
  – Billroth 1 and 2
  – Open cholecystectomy
  – Heller myotomy
  – McVay and Bassini hernia repair
  – Vineberg procedure
References

- Willis T. *Pharmaceutica Rationalis. Sive Diatribe de Medicamentorum Operationibus in Humano Corpore.* London: Hagae Comitis; 1674

- Heller E. *Extramukose cardioplastik beim chronischen cardiospasmus mit dilation des oesophagus.* Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie. 1913:141-9

- Peters, JH *An antireflux procedure is critical to the long term outcome of esophageal myotomy for achalasia.* J Gastrointestinal Surgery 2001;5(1):17-20


- Rakita, S *Esophagotomy during laparoscopic Heller myotomy cannot be predicted by preoperative therapies and does not influence long term outcome.* J of Gastrointestinal Surgery 2005;9(2) 159-164
References


• Andrews, CN Laparoscopic Heller’s myotomy or botulinum toxin injection for management of esophageal achalasia. Surgical Endoscopy 1999;13:742-6


• Katz, PO Pneumatic dilation is effective long term treatment for achalasia. Dig Dis and Sciences 1998;43(9):1973-7
References


• www.ASGE.org UGI dilation guidelines 2006