Treating Achalasia
When to consider surgery and New options for therapy

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Disclosures

- Nothing to Disclose
What is Achalasia?

- Simple Definition
  - Primary Motor Disorder of the Esophagus Characterized by Insufficient Lower Esophageal Sphincter Relaxation and Loss of Esophageal Peristalsis.
  - But...
Types of Achalasia

- Types are based on residual esophageal wave patterns
- **Type I (~25%)**
  - Esophageal body shows minimal contractility
  - Classic Achalasia
- **Type II (~65%)**
  - No peristalsis but intermittent periods of compartmentalized esophageal pressurization (panesophageal pressurization)
  - Early Achalasia?
- **Type III (~10%)**
  - Spastic contractions in the distal esophagus
  - Advanced Achalasia? Or different
- **Gastroesophageal outlet obstruction**
  - Non relaxation of LES without esophageal signs of achalasia
  - Early achalasia?
  - Must rule out mass
Is Success Based on Type?

- Best surgical and PD results with Type II Achalasia
  - This is also noted to be the most common
- Type III
  - Some increased medical benefit
  - POEM?
- Gastroesophageal Outlet Obstruction
  - Not a lot of good data
  - After thorough work up to rule out mass
  - Consider Botox injection for diagnostic/therapeutic effect
  - If effective consider myotomy
Symptoms

- Dysphagia for solids and liquids is present in about 95% of patients.
- Regurgitation of undigested food is reported by 60% of patients.
- 40% experience chest pain.
- 40% of patients also experience heartburn, due to stasis and fermentation of food in the esophagus.
- Aspiration of esophageal contents can lead to respiratory symptoms.
Work Up

- **Barium Esophagram**
  - Looking for typical “bird’s beak”

- **Manometry**
  - Esophageal aperistalsis and non relaxation of LES

- **EGD**
  - R/O tumor or other pseudoachalasia

SAGES and AGA Guidelines
Treatment

- Aimed at treating the stenosis at the LES
- No true “cure” for achalasia
- Medical Therapy
  - Very limited role
    - Typically Calcium channel blockers and Long acting Nitrates to relax LES
    - Typically used sublingual
    - Used in early stages, bridging therapy, and patients who are not candidates for other treatment modalities
Clinical scoring system for achalasia (Eckardt score)

<table>
<thead>
<tr>
<th>Score</th>
<th>Weight loss (kg)</th>
<th>Dysphagia</th>
<th>Retrosternal pain</th>
<th>Regurgitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>1</td>
<td>&lt;5</td>
<td>Occasional</td>
<td>Occasional</td>
<td>Occasional</td>
</tr>
<tr>
<td>2</td>
<td>5–10</td>
<td>Daily</td>
<td>Daily</td>
<td>Daily</td>
</tr>
<tr>
<td>3</td>
<td>&gt;10</td>
<td>Each meal</td>
<td>Each meal</td>
<td>Each meal</td>
</tr>
</tbody>
</table>


Endoscopic Treatment

- **Botox**
  - Safe and Relatively Effective short term.
  - Universal Recurrence at 2 years
  - Reserved for patients who are too high risk for PD or surgery

- **Pneumatic Dilation**
  - Most effective nonsurgical option
  - Pneumatic dilator from 3-4cm
  - Perforation in 1.6% on meta-analysis
  - Lower long term success than surgery and higher to equal risk rate
  - Best for patients who are surgery averse
Surgical Treatment

- Treatment includes myotomy 4cm above the GE junction and 2cm on the stomach
- Most often includes a fundoplication, Dor vs Toupet to prevent post operative reflux
- Results favor better symptom relief and excellent long term results with Laparoscopic Heller Myotomy and Dor Fundoplication
- 105 Articles
- 7855 patients
- Surgery provided the best symptom relief (90%)
- Low complication rate (6.3%)
Meta-Analysis of Randomized and Controlled Treatment Trials for Achalasia

Lan Wang · You-Ming Li · Lan Li

- 17 Randomized trials
- Significant better rates of remission and decreased relapse in surgical patients
- No difference in complications
Ten-year follow-up of laparoscopic Heller myotomy for achalasia shows durability

Louis O. Jeansonne · Brent C. White · Kelly E. Pilger ·
Matthew D. Shane · Stanley Zagorski · S. Scott Davis ·
John G. Hunter · Edward Lin · C. Daniel Smith

- Long term study
- Small sample
- Showed significant improvement in dysphagia
- Similar rates at 10 years than in short term follow up
Surgical Approach

- Transthoracic vs Transabdominal
  - Transabdominal shows better outcomes and less morbidity
  - Improved outcomes most likely secondary to being able to get longer length on the stomach transabdominally
Surgery After Endoscopic Treatment

- Prospective 9 year
- 100 dilation, 33 Botox, 21 Both
- Higher perforation rates in surgery with preop endoscopic treatment (9.7% v 3.6%)
- Postoperative complications, (severe dysphagia, and pulmonary complications), more common after preop endoscopic treatment (10.4% versus 5.4%)
- Failure of myotomy was higher in the endoscopically treated group (19.5% versus 10.1%).

Prospective Trial

251 Patients, 8.4 years

40% of patients develop chronic active or ulcerating esophagitis after PD
Myotomy Vs Endoscopic Treatment

- **Endoscopic Advantages**
  - PD clearly better than Botox in endoscopic realm
  - Able to avoid surgery with PD

- **Surgical Advantages**
  - Surgery may have better long term results and lower complications
  - Ability to visualize the muscle fibers
  - Ability to perform an anti-reflux procedure
So When Should Surgery be Done?

- Promote early surgical intervention
- Shows equal or better long term results than PD
- PD generally requires multiple dilations for long term success
- Possibly more complications if surgery is done after endoscopic options
New Horizons

- POEM
  - First Described in 2009 by Inoue
  - Long submucosal tunnel
  - Advantages of avoiding surgical
  - Direct visualization of the fibers
  - Disadvantage: Inability to perform anti-reflux procedure
POEM Success

- Prospective 70 patients, 5 centers
  - 97% Success with Eckhardt to 1

Outcome of Peroral Endoscopic Myotomy (POEM) for Treating Achalasia Compared With Laparoscopic Heller Myotomy (LHM)

- Similar Rates of Success as LHM 83%
  - Based on Eckhardt scores, QOL Studies
May also be better for Spastic Esophageal Disorders (Achalasia Type III, DES, Jackhammer)

Success was noted in 87% of these cases.

8 Observational Studies Longer Myotomy Possible (Eckhardt ≤3)
Summary

- Early Surgical Intervention for treatment of Achalasia
- Endoscopic Treatment for patients unwilling or too high risk for surgery
- POEM on the horizon
  - First line?
  - Better for Type III and Spastic Esophageal Disease?