

Cases in Therapeutic Endoscopy

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CASE 1

- 26 year old female
- Seen in OPD in 2011 with few non-specific symptoms:
 - -Mild leg swelling (non-pitting)
 - -Progressive weight gain of 25 kg in 5 years 'since she got married'
- Now 75 kg
- -obesity in family

- At end of consultation, then mentions 'Also, I have difficulty swallowing solids for the past 2 years'
- OGD advised
- Patient never turns up for this

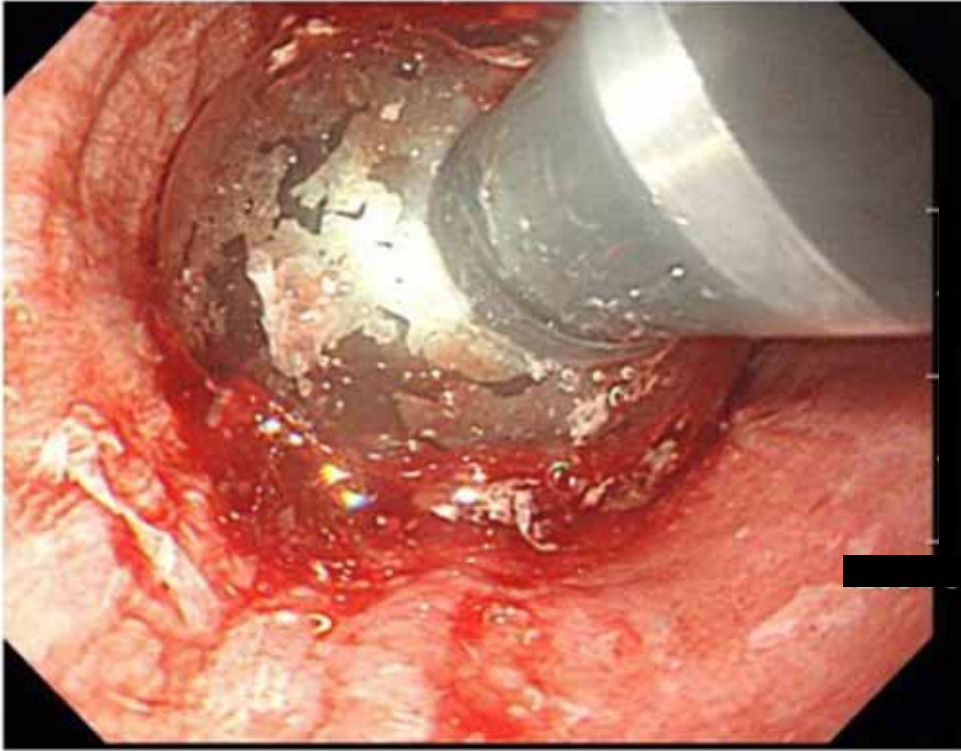
- Re-appears in my OPD 1 year later (Oct 2012)
- Dysphagia has worsened
- Both solids and liquids
- Has to mince her food and eat in small portions at a time
- Feeling food stuck in lower oesophagus
- Chest pains

OGD

- Slight pressure at GO junction to pass scope though
- No stenosis
- Normal OGD
- Oesophageal biopsies: Normal mucosa

Endoscopic dilatation

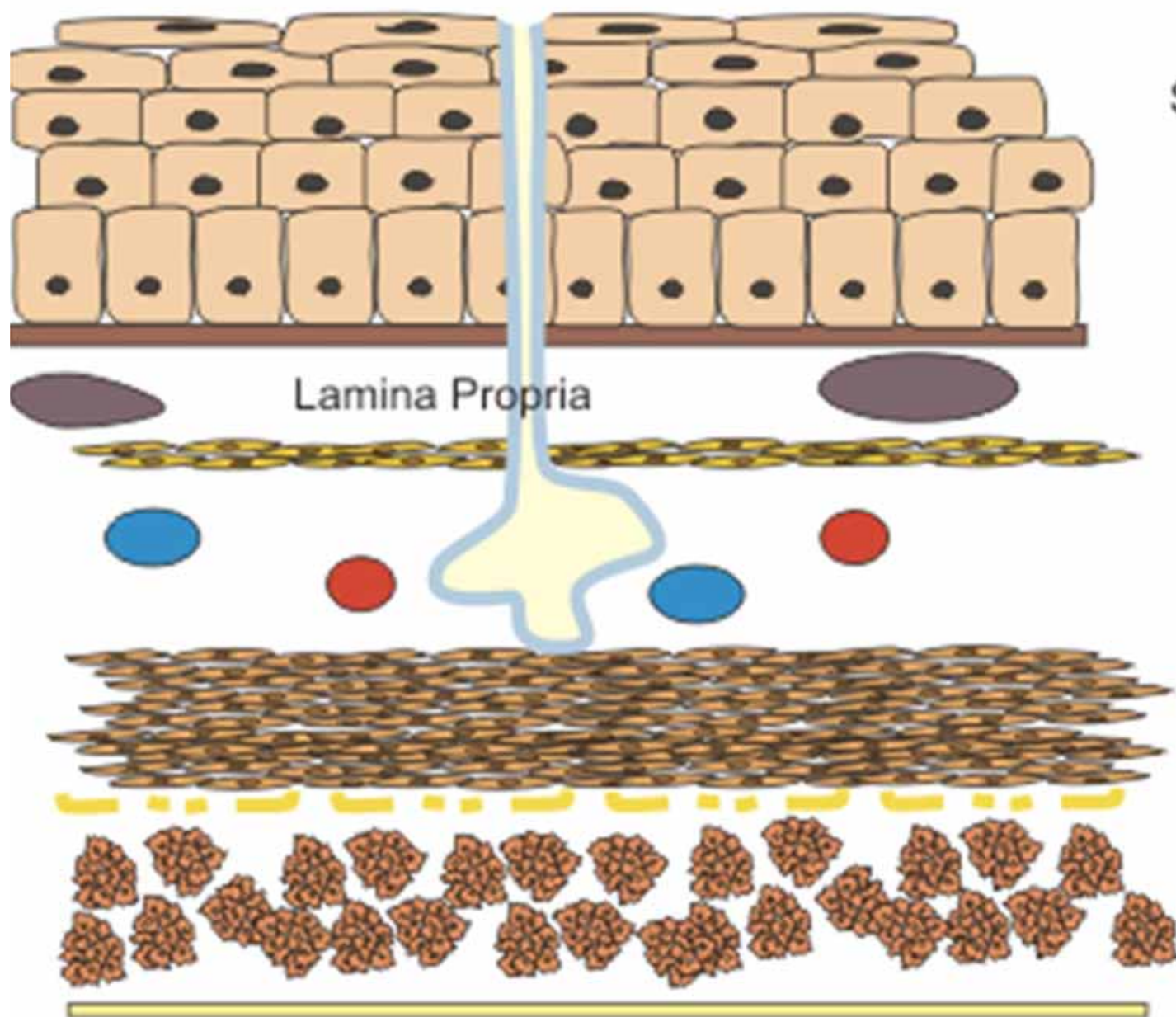
- Achalasia balloon inflated to 30 mm under 2 Atm pressure at GO junction under endoscopic vision



- Able to swallow normally at 1 month follow-up

What is Achalasia?

- 'Lack of relaxation' in Greek
- Aperistalsis of the esophageal body
- Hypertonic lower esophageal sphincter
- It is due to a degenerative condition of the neurons of the esophageal wall



Stratified Squamous Epithelium

Lymphoid Tissue

Lamina Propria

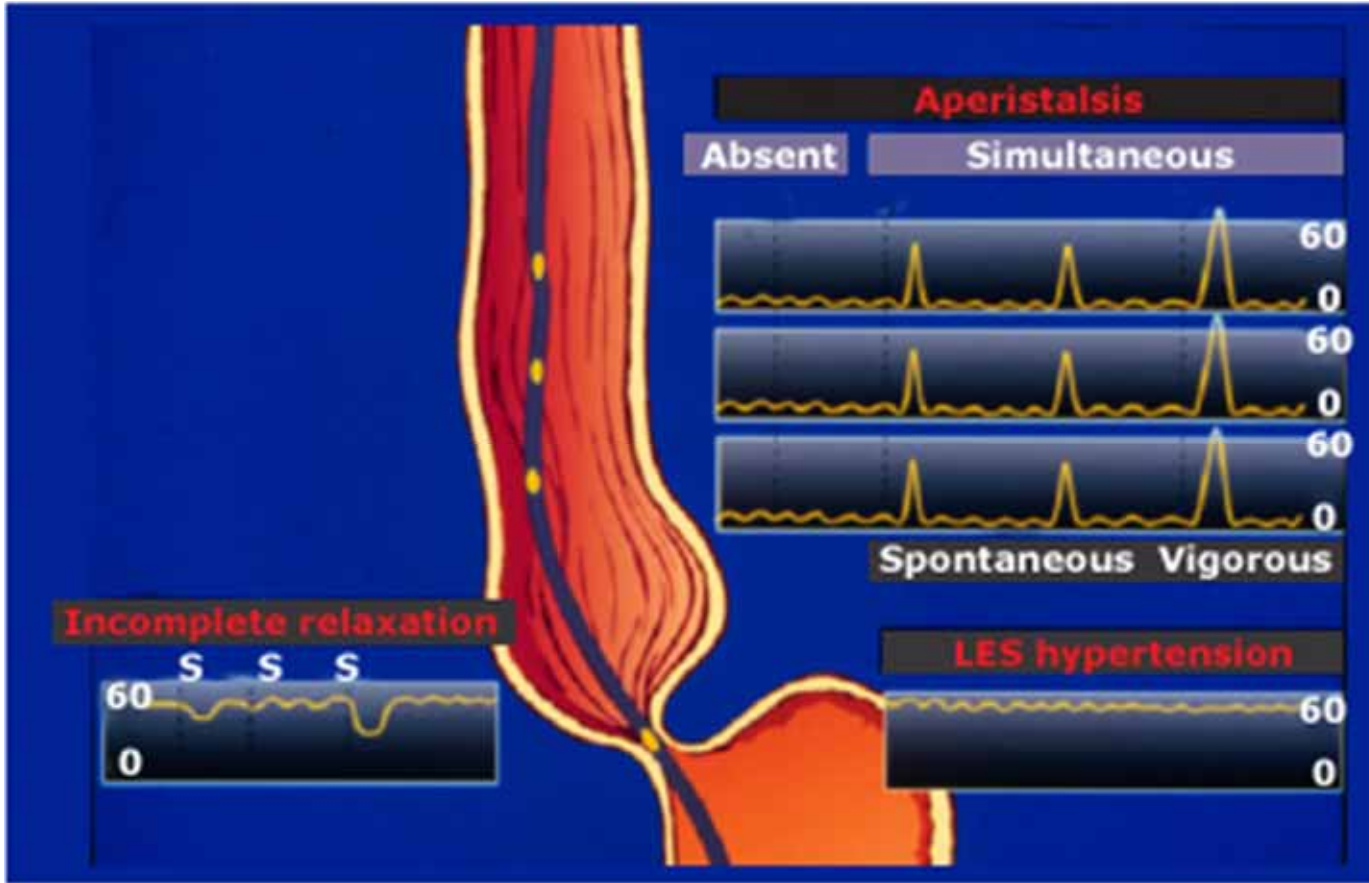
Muscularis Mucosa

Blood Vessels & Glands

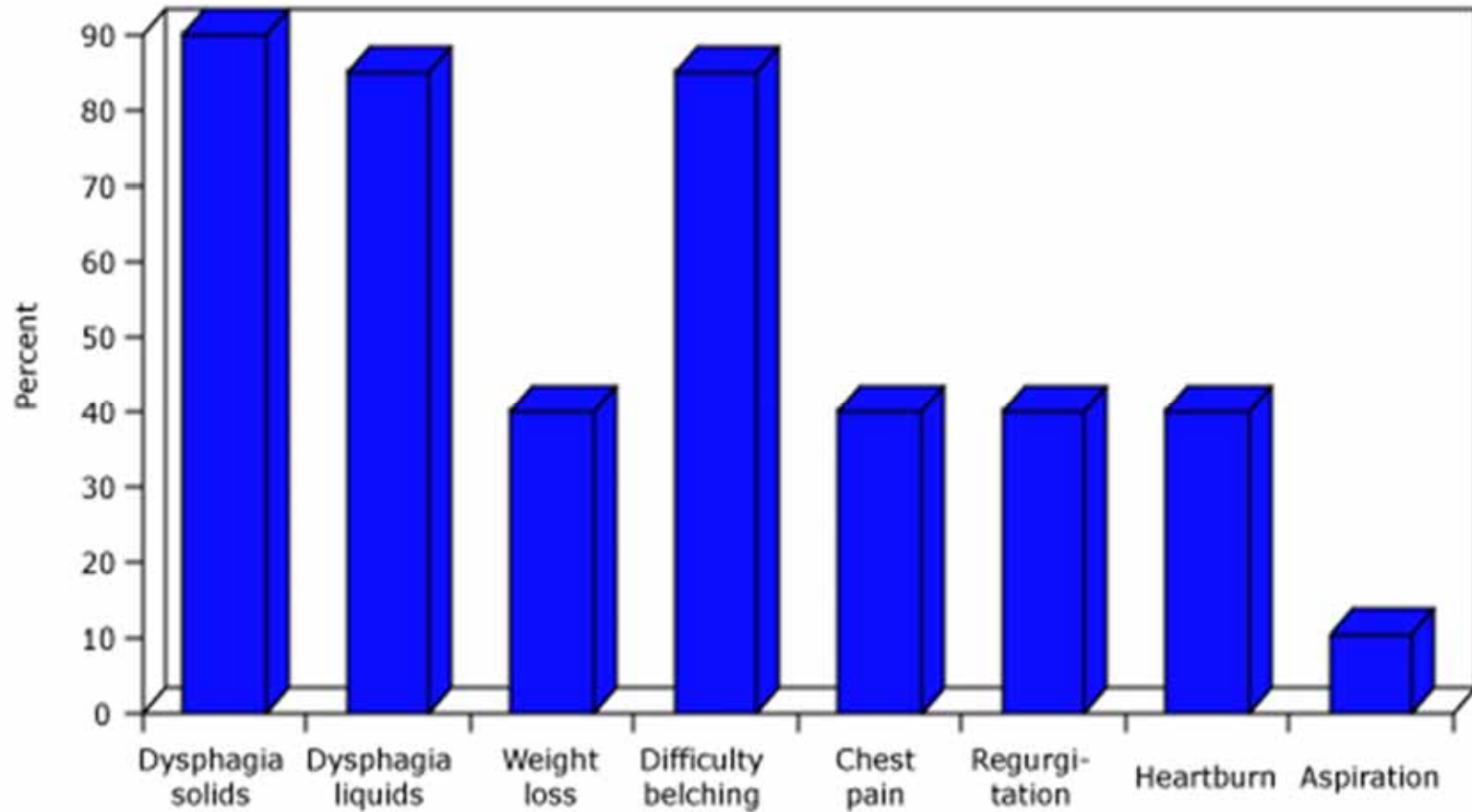
Circular Muscle

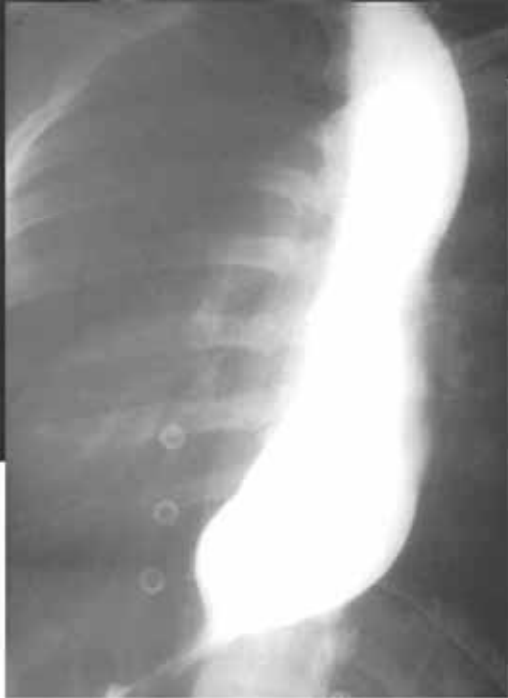
Neural Plexus

Longitudinal Muscle



Clinical Manifestations





TREATMENT OPTIONS

BOTOX

- Botulinum neurotoxin type A
- Inhibits the release of acetylcholine
- The idea for the use of BOTOX came from an understanding of the pathophysiology of achlasia
- By blocking the release of Ach from the presynaptic channels in the ganglia of Auerbach's plexus, the theory is that the balance of neurotransmitters is restored

BOTOX

- Injection is done in the area of the lower esophageal sphincter (LES)
- It is administered endoscopically
- The standard technique is to inject 1 mL (20 to 25 units BT/mL) into each of four quadrants approximately 1 cm above the Z-line.
- Complications include:
 - Mediastinitis
 - Esophageal mucosal ulceration
 - Pneumothorax

BOTOX

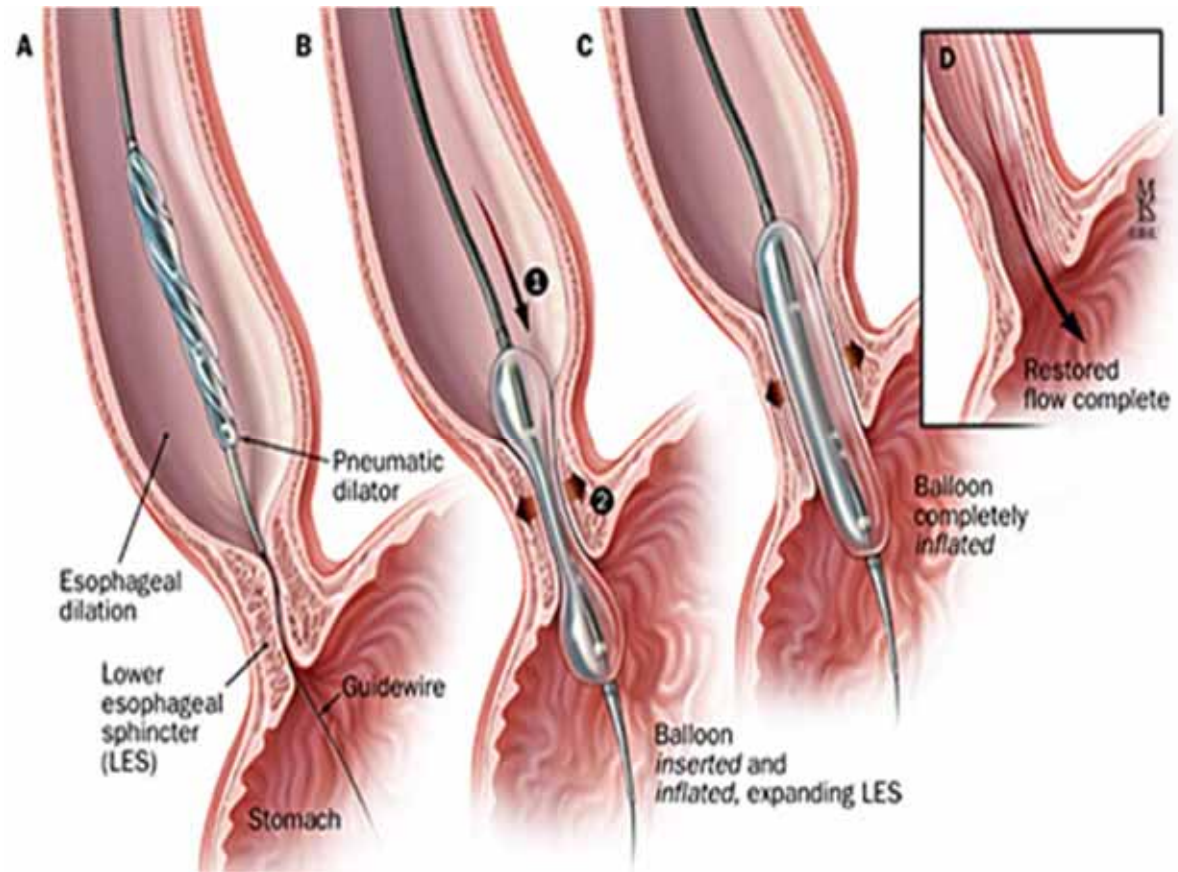
- BOTOX has the downside of not being as effective as other interventions
- While studies have reported symptomatic relief as high as 90% after a few months, the effects generally fall to 50% or lower at one year and continue to diminish after that

Pneumatic dilation

- Considered the most effective nonsurgical treatment of achalasia
- Involves passing the pneumatic device to the LES, using both endoscopy and fluoroscopy to properly place the balloon
- The balloon is inflated to a pressure between 7 to 15 psi
- Patients are usually observed for six hours and then discharged home



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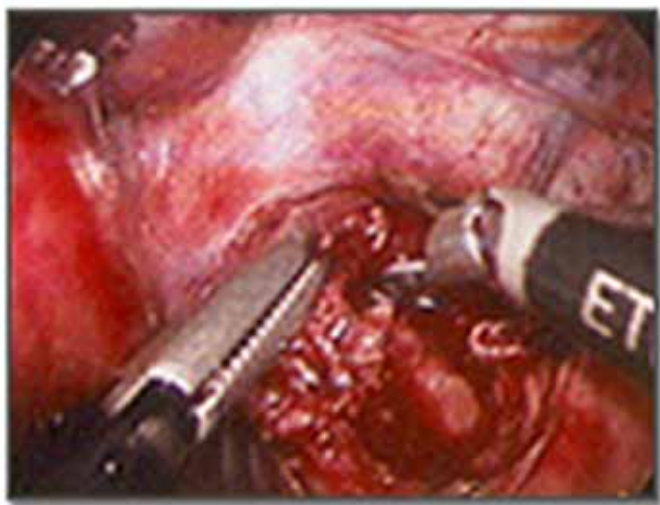
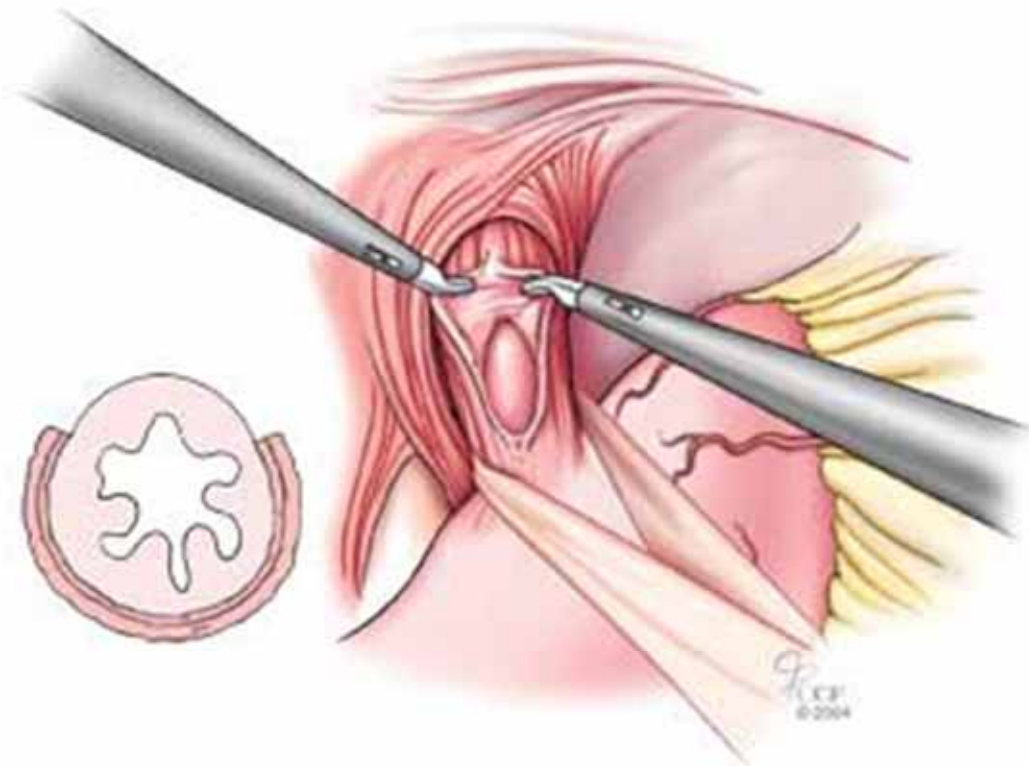


Pneumatic dilation

- *Endoscopic and surgical treatments for achalasia: a systematic review and meta-analysis*
 - Article from UCSF by Campos et al who reported an initial improvement of symptoms in 84.8% of patients after dilation.
- At 36 months this number had decreased to 58.4%.
- As with BOTOX, subsequent interventions will have diminishing success rates

Surgical Myotomy

- Surgical myotomy via the modified Heller approach results in good to excellent relief of symptoms in 70 to 90 percent of patients with few serious complications.
- The surgeon weakens the LES by cutting its muscle fibers.
- The mortality rate (approximately 0.3 percent) is similar to that reported for pneumatic dilation.



CASE 2

Case 2

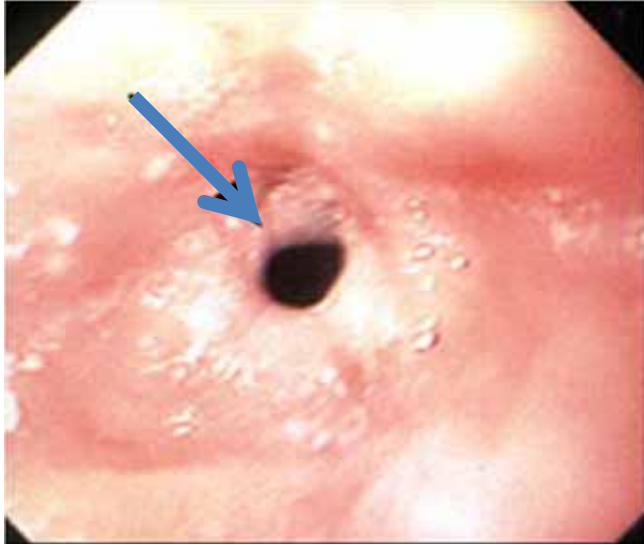
- 6 year-old boy
- Accidental ingestion of caustic soda at school in 2010
- Progressive dysphagia persisting at 2 months post ingestion

Barium swallow



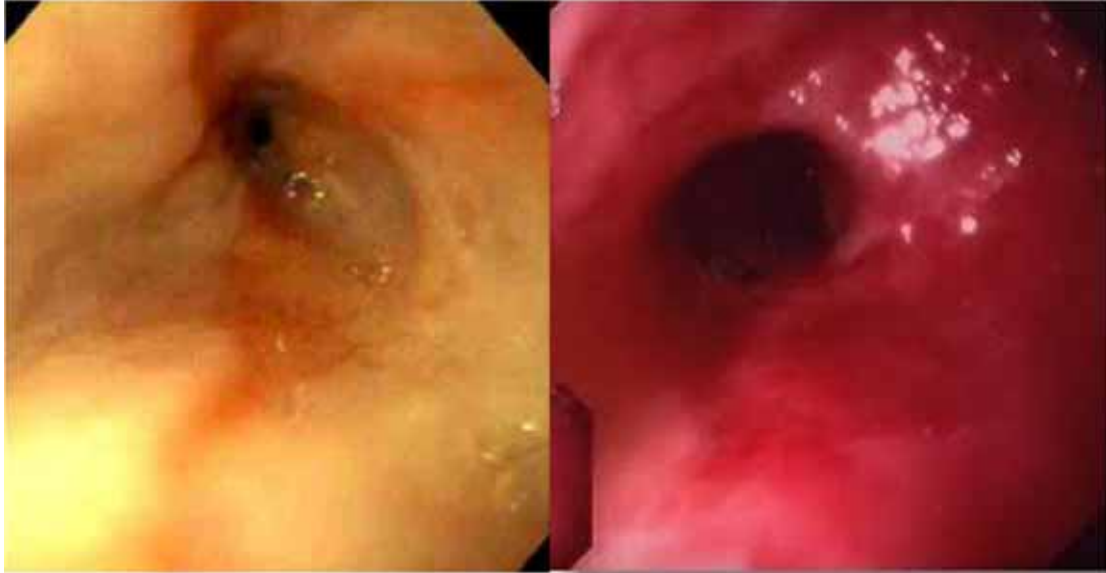
OGD

- 1st stricture at 15 cm-unable to pass scope through
- Dilated to 10 mm with pneumatic through-the-scope balloon





- 2nd stricture at 18 cm- Dilated
- 3rd stricture more distally, only seen from a distance as unable to pass scope through 2nd stricture completely
- Dilation performed under fluoroscopy to 9 mm



- Gastrostomy feeding tube inserted by Dr K Teerovengadam (laparotomy)

- Dilated with Savary-Gillard tubes at Victoria hospital (Dr Teerovengadum)
- Recurrent dysphagia from re-stenosis
- Oesophageal reconstructive surgery performed at Apollo Bramwell 6 months later
- Able to swallow post-op, but.....

-dysphagia recurs 3 weeks later, becomes progressive again



OGD- Anastomotic stricture at 18 cm



- Pneumatic balloon dilation to 15 mm
- Scope passes through to stomach and duodenum

1 month later

- Dysphagia recurs
- Stricture dilated with Savary-Gillard dilators at VH (Dr Teerovengadum)



- Results short-lived, only able to swallow liquids after 2 weeks
- Endoscopic balloon dilation to 15 mm

3 months later

- Dysphagia to liquids recurs
- Thoracotomy with stricture resection and end-to-end anastomosis performed at ABH (Dr Teerovengadam)

.....3 months later

- Dysphagia recurs
- Developed anastomotic stricture again
- Balloon dilation to 20 mm
- Triamcinolone 80 mg injected in 4 quadrants



1 month later

- Dysphagia recurs
- Stricture dilated, with Triamcinolone injection

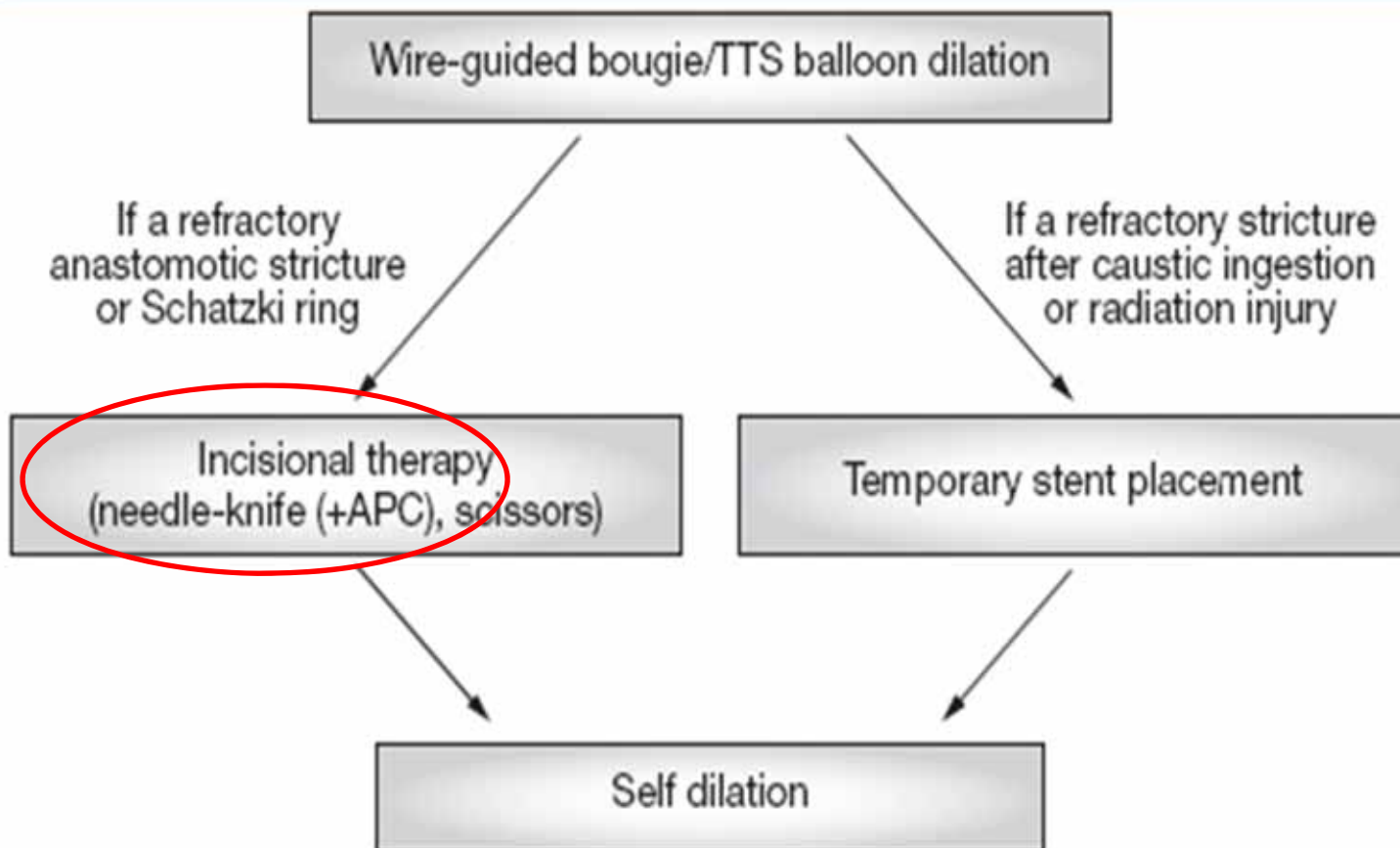
.....1 month later

- Dysphagia recurs
- Difficult , recalcitrant stricture!!!!

One option is to put a temporary covered stent



Refractory Oesophageal strictures





- Longitudinal incisions in 4 quadrants
- 3 sessions at 2 months interval
- Now able to swallow liquids and solids for the past 10 months, without any intervention needed.