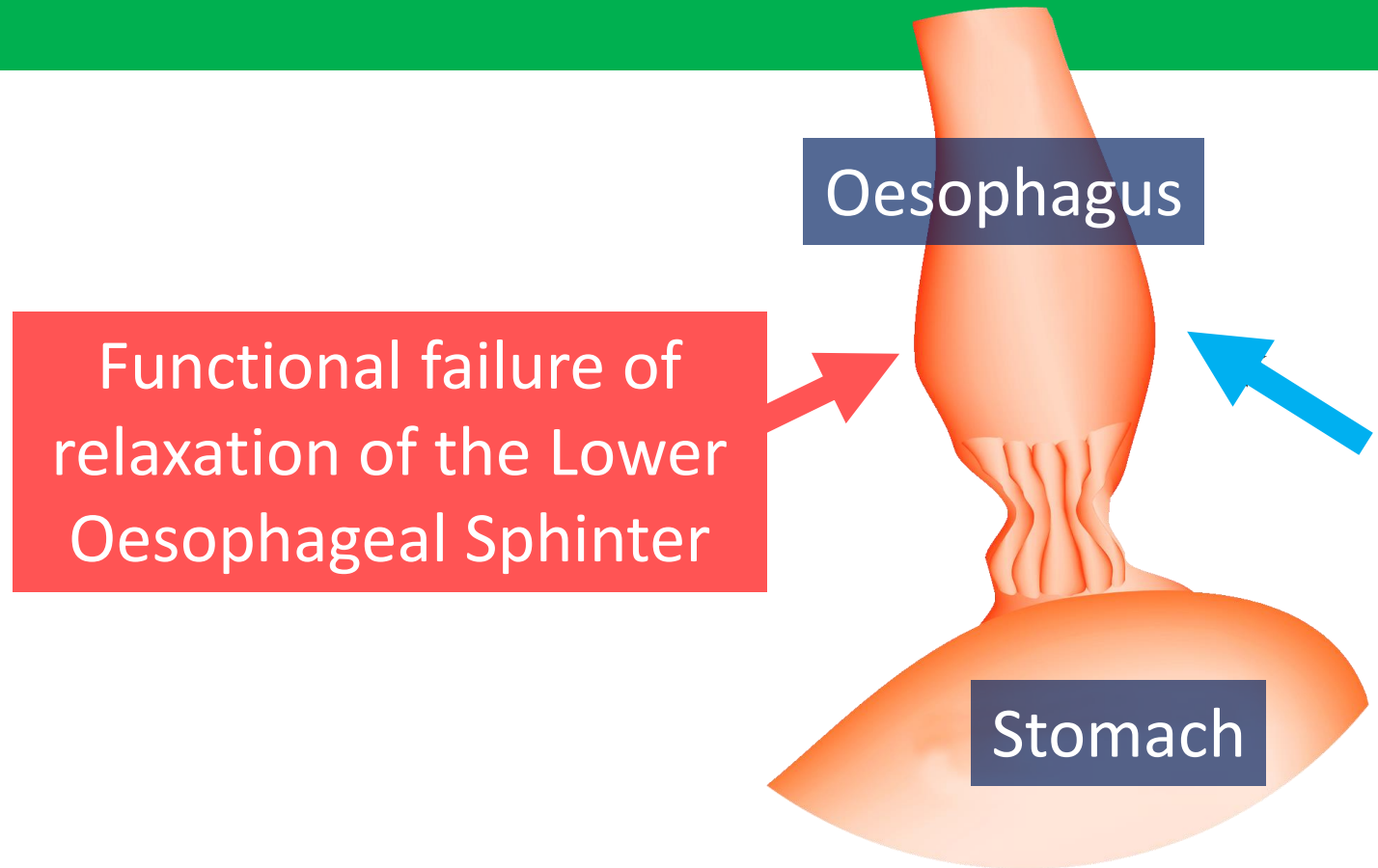


# Achalasia Cardia

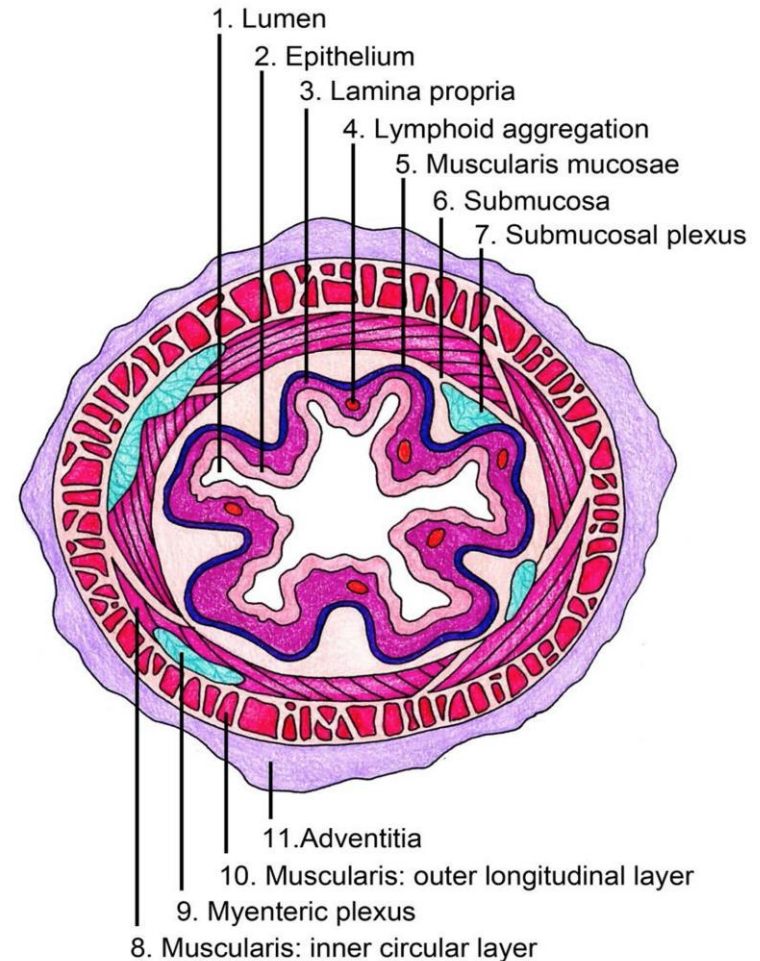


# Anatomy of the oesophagus

- Muscular tube
- Approximately 25 cm long
- Extending from the upper oesophageal sphincter to the junction with the cardia of the stomach
- It is lined throughout with squamous epithelium
- Upper sphincter – striated muscle
- Transitional zone - striated and smooth muscle
- Lower half - only smooth muscle



- Parasympathetic nerve supply by vagus nerve – synaptic connections to the myenteric (Auerbach's) plexus
- Lower sphincter
  - More subtle
  - Created by the asymmetrical arrangement of muscle fibers



# Oesophageal motility disorders

- Disruption of this highly integrated muscular motion limits delivery of food and fluid
- Presentation -Dysphagia ,Chest pain
  1. Primary
  2. Secondary- occur as manifestations of systemic diseases



# Esophageal motility disorders

## Primary

- Achalasia
- Spastic esophageal motility disorders-
  - Diffuse esophageal spasm
  - Dutcracker esophagus
  - Hypertensive LES
- Nonspecific esophageal motility

Secondary -scleroderma, diabetes mellitus, alcohol consumption, psychiatric disorders, presbyesophagus



# Achalasia cardia

- Functional failure of relaxation of the lower oesophageal sphincter
- Due to loss of the ganglion cells in the myenteric (Auerbach's) plexus
- Cause is unknown
- Uncommon disorder
- Peak ages of incidence in young adulthood (idiopathic) and old age (mostly degenerative)
- Equally affecting both sexes



# Pathophysiology

- Loss of the ganglion cells in the myenteric (Auerbach's) plexus
- The cause is unknown
- Inflammation and neural fibrosis may be seen with normal numbers of ganglion cells
- Absent peristalsis in the body of the oesophagus and non-relaxing LOS



Oesophagus dilates & contractions disappear



Oesophagus empties by the hydrostatic pressure of its contents (nearly always incomplete)



Tortuous with a persistent retention Oesophagitis due to fermentation of food residues



**Megaoesophagus**





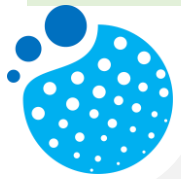
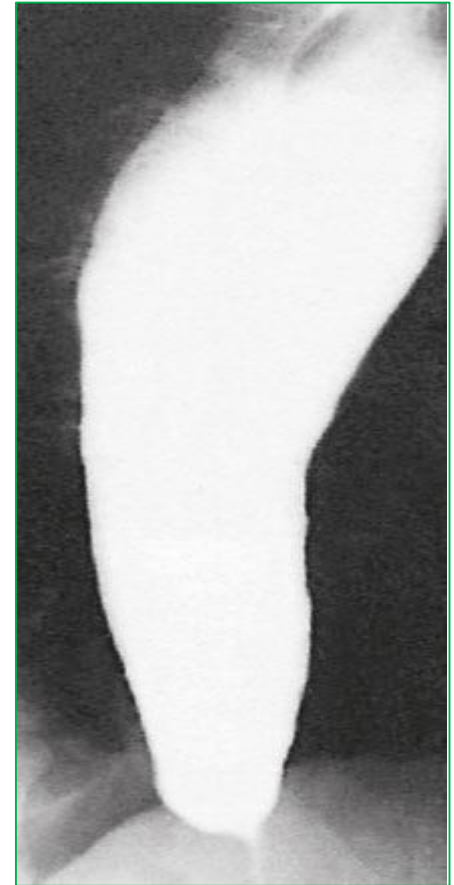
# Clinical features

- Dysphagia- long history
- Dysphagia for solids is more common than for liquids
- Pain
- Regurgitation
- Loss of weight
- Nocturnal cough
- Wheeze



# Diagnosis

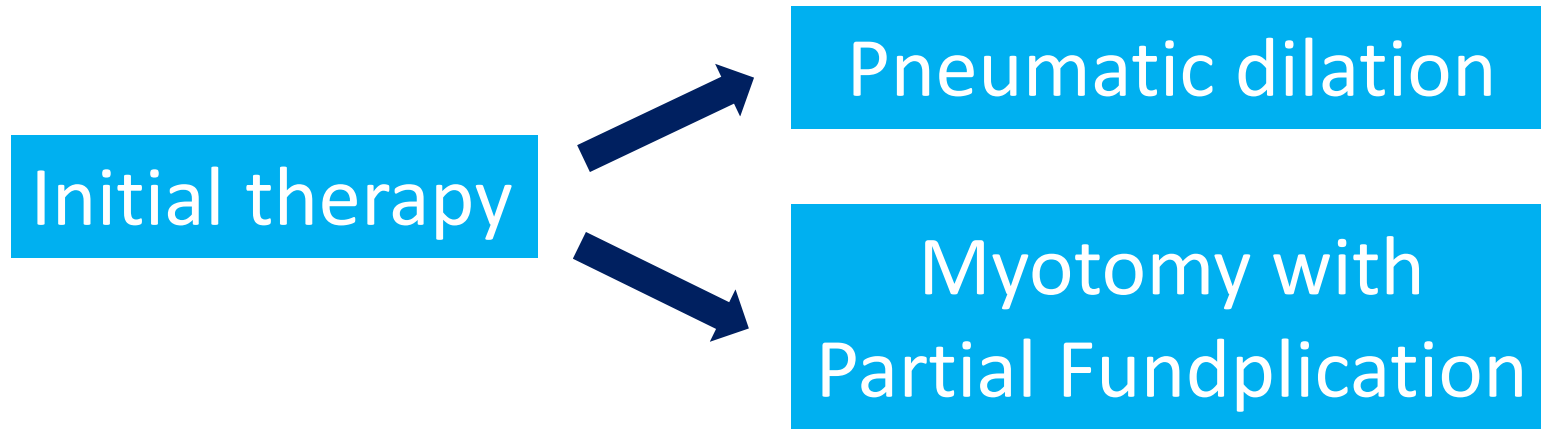
- Endoscopy - Tight cardia and food residue in the oesophagus
- Barium radiology - Bird's Beak appearance



- Esophageal manometry
  - I. Incomplete relaxation of the LES in response to swallowing
  - II. High resting LES pressure
  - III. Absent esophageal peristalsis
- Prolonged esophageal pH monitoring



# Management



- Myotomy for patients who are fit for surgery
- Other Treatment option – Botulinum toxin injection



# Pneumatic dilation

- Stretching the cardia with a balloon
- Disrupt the muscle and render it less competent
- Balloons of 30–40 mm in diameter
- Inserted over a guide wire
- Perforation is the major complication
- The results are best in patients aged more than 45 years



# Heller's Myotomy

- Cutting the muscle of the lower Oesophagus and Cardia
- Laparoscopic approach
- Success rate- 90%
- Complication – Gastrooesophageal reflux



Prevention

Partial Anterior Fundoplication  
(Heller-dor's Operation)



# Botulinum Toxin

- Endoscopic injection into the LOS
- Interfering with cholinergic excitatory neural activity at the LOS
- Effect is not permanent
- Has to be repeated after a few months
- Restricted to elderly patients with other comorbidities



# Drugs

## Calcium channel antagonists

- Ineffective for long-term use
- Sublingual nifedipine
- Transient relief of symptoms
- Decrease LES pressure
- Success rate- 10%





# Prognosis

Pneumatic dilatation and  
laparoscopic myotomy



Effective

- Do not use botulinum toxin and medications if performing a pneumatic dilatation or laparoscopic Heller myotomy



# Complications

- 5% of patients develop squamous cell carcinoma
- Recurrent aspirations
- Aspiration pneumonia

