



# ACHALASIA

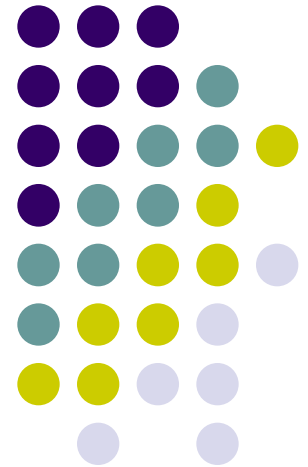
By

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# INTRODUCTION



- Motility disorder of the oesophagus
  - Failure of the LES to relax in response to swallowing
  - Absence of peristalsis in the oesophageal body

# HISTORICAL BACKGROUND



- Sir Thomas Willis in 1674.
  - Treated a patient by dilating the LES with a cork-tipped whalebone
- Hurt and Rake in 1929
  - Pathophysiology was a failure in LES relaxation.

# TYPES



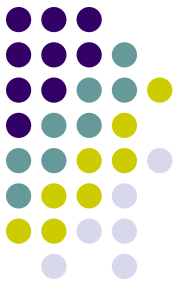
- Primary achalasia
  - Loss of ganglion cells in the esophageal myenteric plexus
- Secondary achalasia
  - Malignancies
  - Autoimmune disorders
  - Chagas disease

# EPIDEMIOLOGY



- Incidence rate 0.4-0.6 /100,000
- Mean age 8.8 yrs
- Infantile type Rare

# PATHOGENESIS



- Degeneration of ganglion cells in myenteric plexus of Auerbach
- Selective impairment of postganglionic inhibitory neurons in the circular layer of LES.
- Normal esophageal muscle

# CLINICAL MANIFESTATION



- Dysphagia
- Persistent vomiting
- Failure to thrive
- Nocturnal regurgitation of food
- Repeated respiratory infections

# Diagnosis



- Radiological studies
- Upper gastrointestinal endoscopy
- Esophageal Manometry



# INVESTIGATIONS



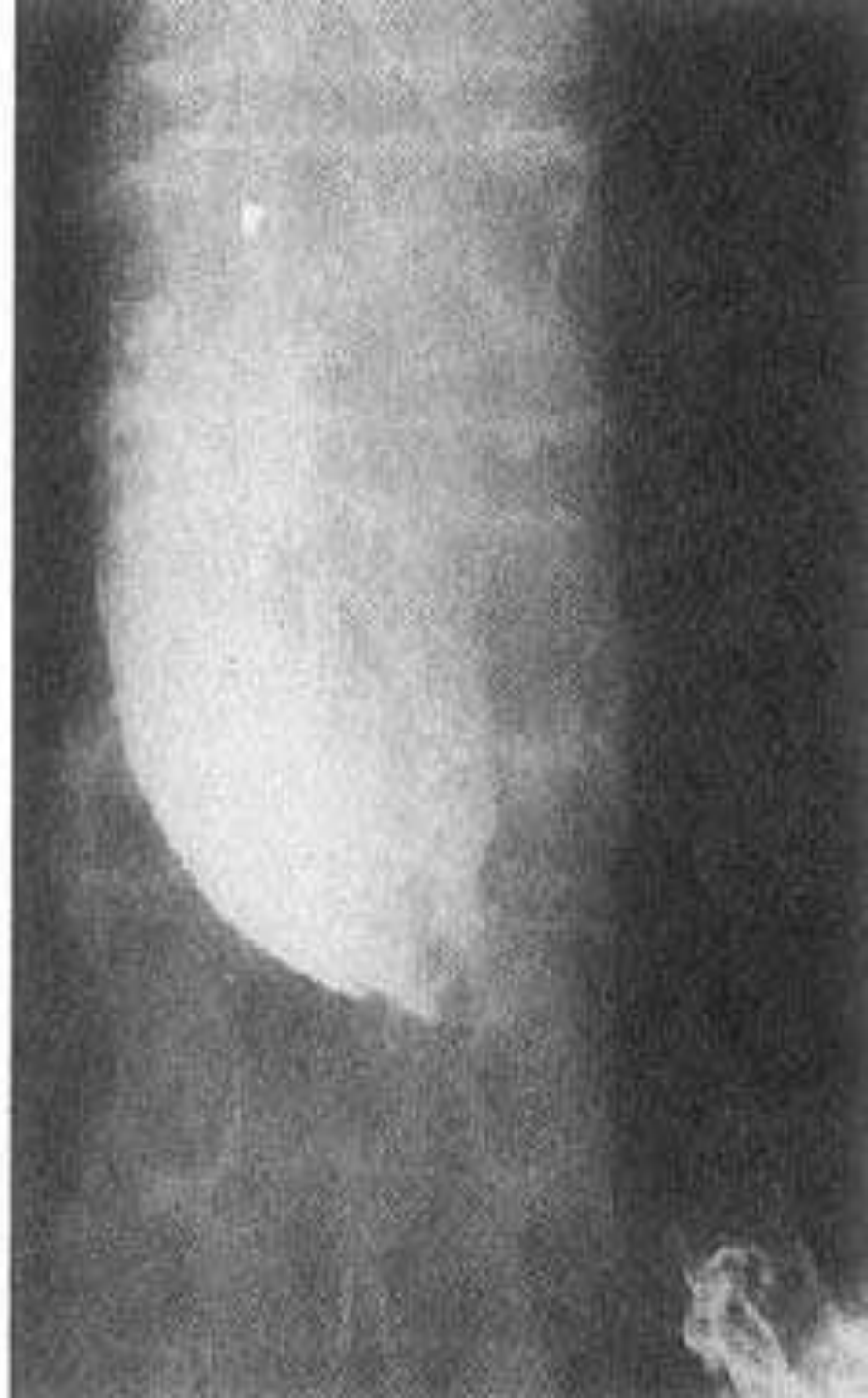
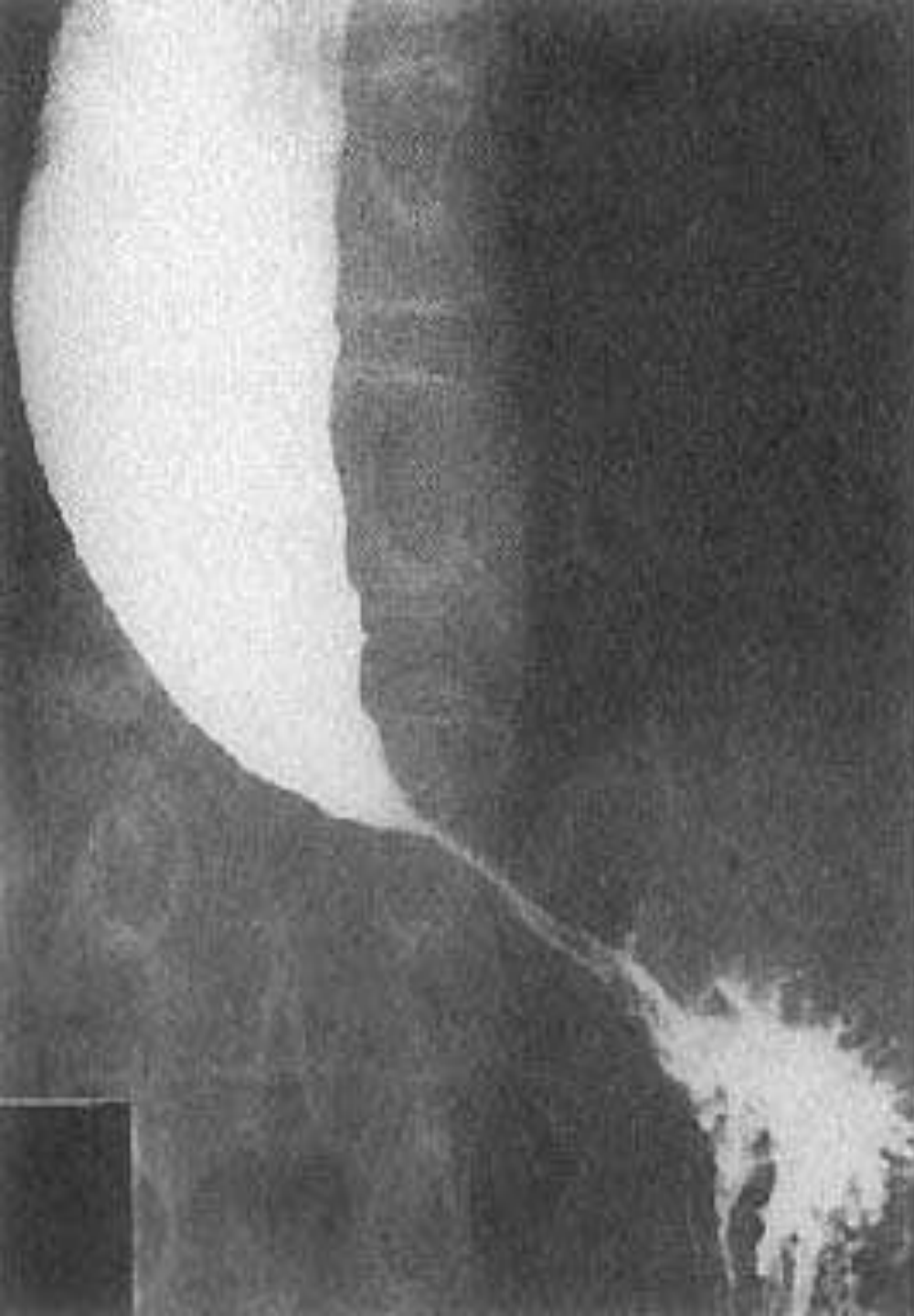
## ➤ CHEST X-RAY

- widening of the mediastinum
- posterior mediastinal air-fluid level
- Absent fundic air bubble
- Chronic aspiration --- abnormalities of the lung fields

# BARIUM SWALLOW



- Bird's Beak Deformity
- Severity: Size of the oesophageal body
  - <4 cm ----- mild disease,
  - 4 to 6 cm ----- moderate,
  - > 6 cm ----- severe



# BARIUM STUDY UNDER FLOROSCOPY

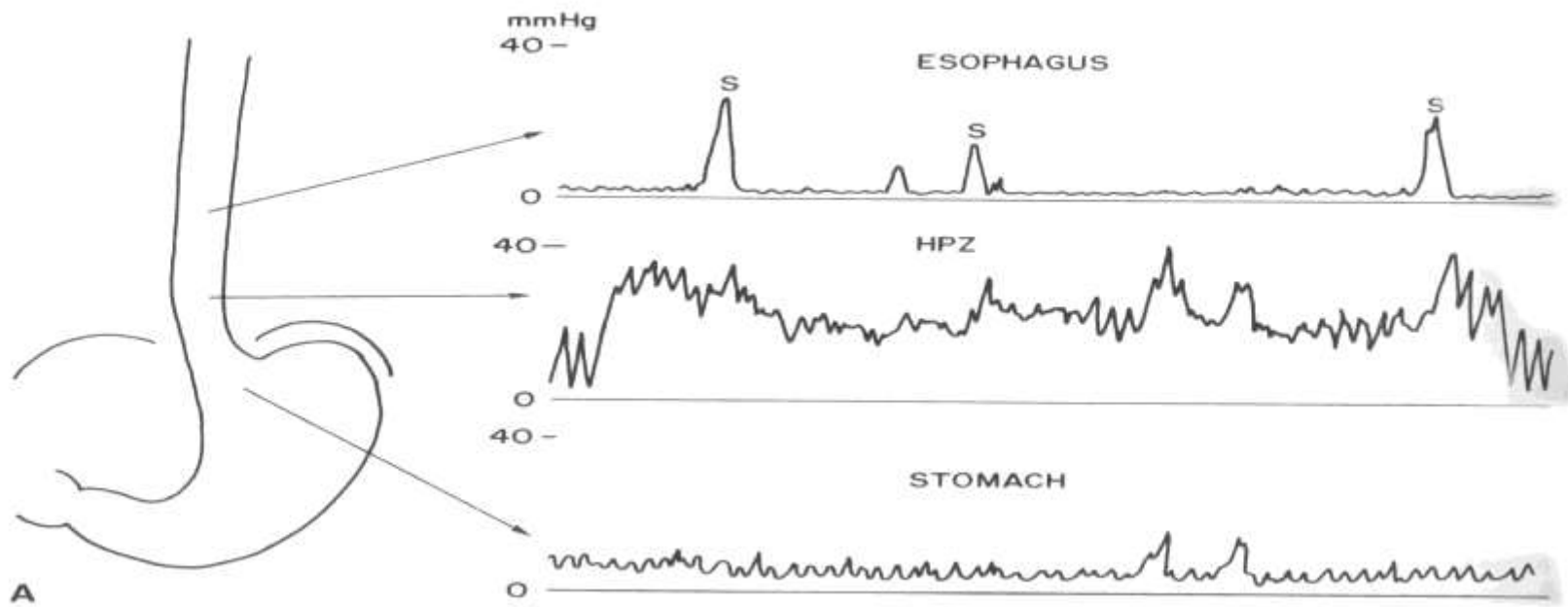


- Failure of peristalsis
- Antegrade and retrograde motion of barium
- Pooling of barium
- Incomplete & uncoordinated LES relaxation with esophageal contraction
- Dilation of the esophageal body
- Bird beak sign

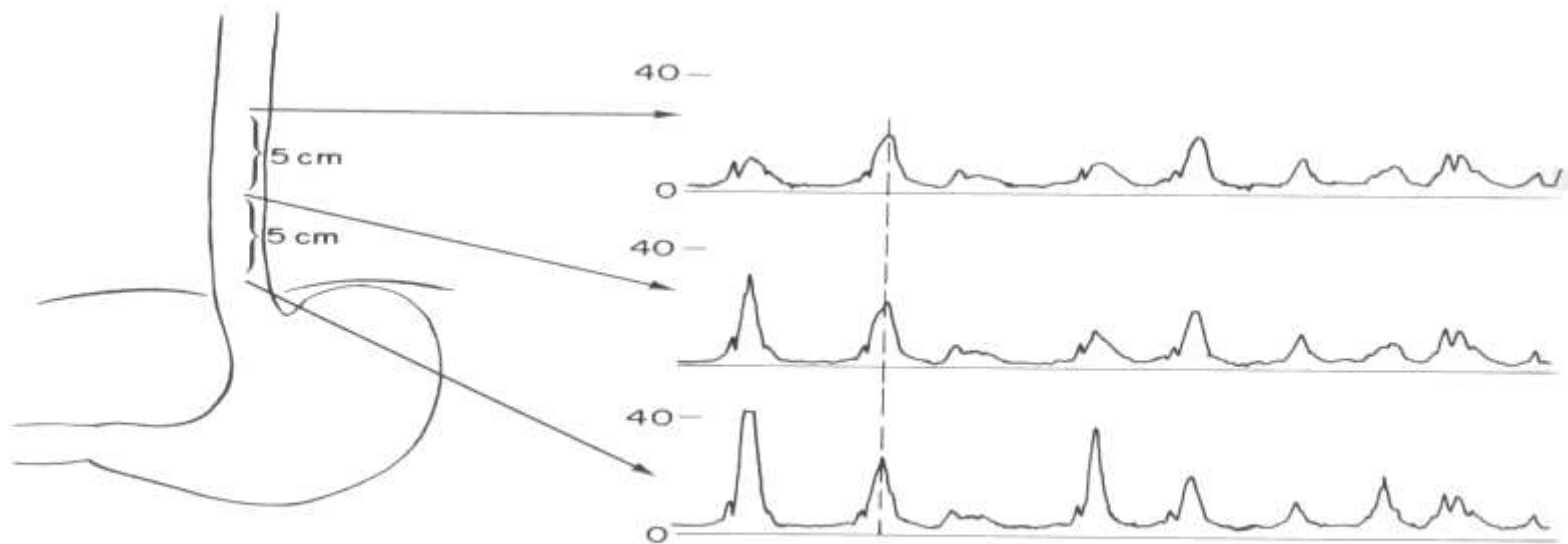
# OESOPHAGEAL MANOMETRY



- Elevated lower oesophageal sphincter pressure
- Incomplete or absent relaxation of the lower oesophageal sphincter
- Absence of peristalsis in oesophageal body
- Elevated intra-oesophageal pressure



**A**



**B**

# HIGH -RESOLUTION MANOMETRY



- Type I(classic)-
  - achalasia with minimal esophageal pressurization
- Type II –
  - achalasia with esophageal compression
- Type III –
  - achalasia with spasm.

Pandolfino JE, Kwiatek MA, Nealis T, B. Achalasia: a new clinically relevant classification by high-resolution manometry. *Gastroenterology*. Nov 2008;135(5):1526-33

# ENDOSCOPY



- Patulous oesophagus
- Close LES, provides little or no resistance to the endoscope



# Treatment

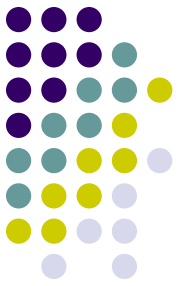


- Pharmacological
- Mechanical botulinum toxin
- Surgical



# Pharmacologic therapy

- Calcium channel blockers
  - Nifedipine and verapamil
- Anticholinergic agents
  - Cimetropium bromide
- Nitrates
  - Isosorbide dinitrate
- Opioids
  - Loperamide



# Mechanical therapy

- Pneumatic balloons dilation
  - successful in 60-80% of patients
  - 50% recurrence within 5 years
- Botulinum toxin therapy
  - 33% no response.

# Esophageal (Heller) myotomy



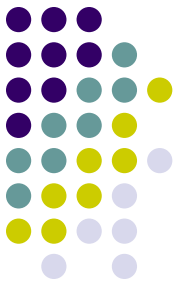
- Laparoscopic approach
- Esophageal myotomy with concomitant partial fundoplication
  - 88%-98% relief

# Laparoscopic Cardiomyotomy for Achalasia



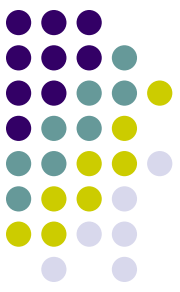
- Minimum 5 yrs follow up, 73% achieves effective & durable relief

# Pneumatic Dilation strategy



- Sessions of Pneumatic Dilation until stable remission is highly successful
- Gastroesophageal Reflux in minority

# Combined therapy – Botulinum Toxin inj. followed by Pneumatic Dilation



- Superior to single Modality approach
- Group A                      100UBT                      13.79% Response
- Group B                      Balloon Dilation                      35.7% Response
- Group C                      Combined                      56,6% Response



THANK YOU