ACHALASIA

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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
HIGH-RESOLUTION MANOMETRY

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

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