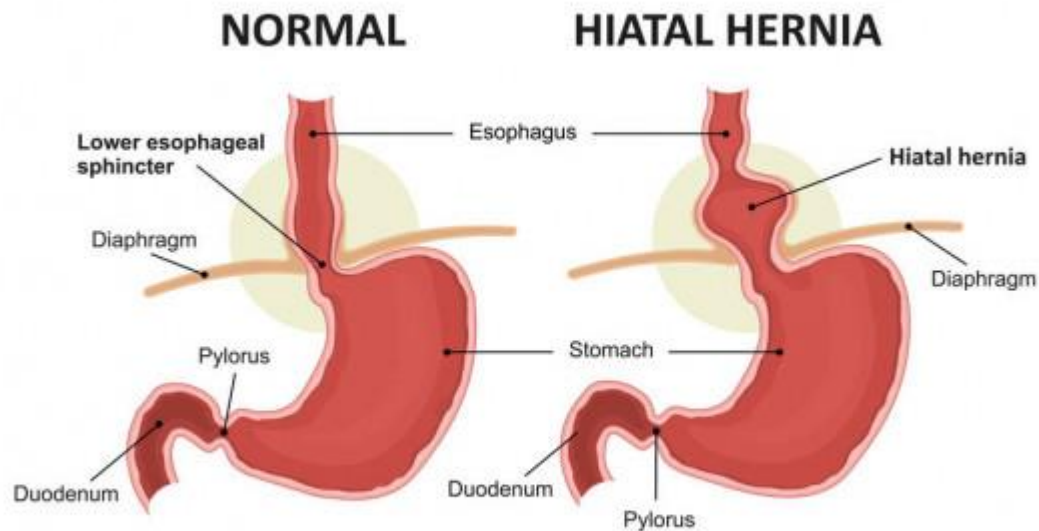


# Hiatal Hernia



# Hiatal Hernia

- Also called,  
    Paraesophageal hiatal hernia  
    ‘Rolling’ hiatal hernia
- True paraesophageal hernias in which the cardia remains in its normal anatomical position are rare.
- Vast majority of rolling hernias are mixed hernias in which the cardia is displaced



- Common in women than in men
- Increasing prevalence in older people with decreasing tissue elasticity
- But may occur in young fit people
- May be congenital or acquired



- Sometimes,
    - whole of the stomach
    - Colon
    - Small intestine
- } Lie in the hernia sac
- Always an element of rotation (volvulus)



# Anatomy

- The esophagus passes through the diaphragmatic hiatus in the crural part of the diaphragm to reach the stomach.
- **The diaphragmatic hiatus**
  1. 2 cm in length
  2. consists of musculotendinous slips of the right and left diaphragmatic crura



- The size of the hiatus - narrows whenever intra abdominal pressure rises

Eg - Lifting weights

Coughing

Antireflux barrier:

1. Diaphragmatic crura
2. Lower oesophageal sphincter baseline pressure
3. Intra-abdominal segment
4. Angle of His



# Pathophysiology

- A hiatal hernia occurs when a portion of the stomach prolapses through the diaphragmatic esophageal hiatus

## **Predispose factors**

- Muscle weakening and loss of elasticity with age
- Pregnancy
- Obesity
- Abdominal ascites



# Hiatal hernia

Compromises this  
reflux barrier

Longer transient  
LES relaxation  
episodes  
particularly at  
night time

Reduced LES  
pressure  
Reduced esophageal  
acid clearance

Increase the  
esophageal mucosa  
acid contact time

# Oesophagitis





# Clinical features

Mostly due to twisting and distortion of the oesophagus and stomach

- Dysphagia (Common)
- Chest pain (Due to distension of an obstructed stomach) - Pain is relieved by a loud belch
- Symptoms of GORD



# Emergency presentation

1. Strangulation
2. Gastric perforation
3. Gangrene



High mortality



# Investigations

- Chest X-ray - gas bubble, often with a fluid level behind the heart
- CT scan with oral contrast (**Best method of diagnosis**)
  1. Highlighting the gastric anatomy
  2. Identifying other structures involved in the hernia



A barium upper gastrointestinal:

1. Outpouching of barium at the lower end of the esophagus
2. A wide hiatus through which gastric folds are seen in continuum with those in the stomach
3. Occasionally, free reflux of barium

A barium study also helps distinguish a sliding from a paraesophageal hernia



- Endoscopy - Difficult to distinguish a Barrett's oesophagus from a tubular, sliding hiatus hernia
- Because two often coexist or where the visible Barrett's segment is very short
- Mucosa in the body of the stomach has longitudinal folds
- Columnar lining of Barrett's oesophagus is smooth



# Treatment

## Surgical treatment

- Necessary - complications of GERD despite aggressive PPI treatment

Potential surgical candidates:

- Young patients with severe or recurrent complications of GERD (eg,) who cannot afford lifelong PPI treatment
- Patients with pulmonary complications (eg, asthma, recurrent aspiration pneumonia, chronic cough, or hoarseness linked to reflux disease)



- Involves removing the hernia sac and closing the abnormally wide esophageal hiatus

### **3 major types of surgical procedures**

- Nissen fundoplication (or a variant, the Toupet procedure)
- Belsey fundoplication
- Hill repair



# Present as an emergency with acute chest pain

- Nasogastric tube, to relieve the distension
- Endoscopy is useful if nasogastric intubation is unsuccessful

If the pain is not relieved or perforation is suspected



Immediate operation





- Laparoscopic repair has recently become popular
- Full anatomical repair of a large rolling hernia - Can be difficult using this approach
- Secure closure of the hiatal defect can be a problem
- Some times - Mesh to reinforce the repair



**symptoms are due to GERD, treatment goals include the following:**

- Prevention of reflux of gastric contents
- Improved esophageal clearance
- Reduction in acid production

**Achieved by,**

- Modifying lifestyle factors
- Neutralizing acid or inhibiting acid-producing mechanisms
- Enhancing esophageal and gastric motility



# Complications

- Incarcerated
- Strangulation
- Perforation
- Oesophagitis
- Strictures, ulcers, or bleeding (complications of GORD)



# Prognosis

- Emergency presentation with any of these complications carries high mortality
- Elderly – High mortality
- Patients with comorbid diseases – High mortality
- Complexity of surgery – High mortality

