

# Gastro Oesophageal Reflux Disease



# Anatomy

- Normal competence of the gastro-oesophageal junction is maintained by the lower oesophageal sphincter (LOS)
- Influenced by its,
  1. Physiological function
  2. Anatomical location relative to the diaphragm and the oesophageal hiatus
- LOS transiently relaxes as a coordinated part of swallowing



# Pathophysiology

- Physiological reflux - During postprandial transient LOS relaxations (TLOSRS)
- **Early stages of GORD,**  
pathological reflux occurs as a result of an increased number of TLOSRS rather than a persistent fall in overall sphincter pressure
- **Severe GORD,**  
LOS pressure tends to be generally low  
this seems to be made worse if there is loss of an adequate length of intraabdominal oesophagus



# Sliding hiatus hernia & GORD

- Sliding hiatus hernia is associated with GORD
- May make GORD worse
- As long as the LOS remains competent, pathological GORD does not occur
- Many GORD sufferers do not have a hernia
- Many of those with a hernia do not have GORD



**Sliding hiatus  
hernia**



**Absence intra-  
abdominal length of  
oesophagus**



**Loss of the normal  
anatomical  
configuration**



**Exacerbates reflux**



# Epidermiology

- In western societies, GORD is the most common condition affecting the upper GI tract
- 10 to 20% incident in the Western world
- Rising incidence of GORD in the last 30 years
- Cause of the increase - may be due to increasing obesity
- Less than 5% incident in Asia



# Clinical Features

## Classic triad of symptoms,

1. Retrosternal burning pain (heartburn)
2. Epigastric pain (sometimes radiating through to the back)
3. Regurgitation



- Symptoms are provoked by,  
Food (particularly those that delay gastric emptying) (e.g. fats, spicy foods)

More severe,

Gastric juice may  
reflux to the mouth



Produce an  
unpleasant taste



described as  
'acid' or 'bitter'

- Heartburn and regurgitation can be brought on by stooping or exercise.





- odynophagia with hot beverages, citrus drinks or alcohol
  - Nocturnal reflux
  - Reflux food to the mouth
  - Angina-like chest pain
  - Pulmonary or laryngeal symptoms
- } Severe GORD



# Diagnosis

- In most cases, the diagnosis is assumed rather than proven
- Investigation is required only when
  1. The diagnosis is in doubt
  2. When the patient does not respond to a proton pump inhibitor (PPI)
  3. If dysphagia is present



# Investigations

- Endoscopy with biopsy
  1. Typical appearance of reflux oesophagitis
  2. Peptic stricture
  3. Barrett's oesophagus
- Oesophageal manometry
- 24-hour oesophageal pH recording



- 24-hour pH recording is the 'gold standard' for diagnosis of GORD
- Proton pump inhibitors (PPIs) are stopped 1 week before oesophageal pH recording
- Length and pressure of the LOS are important
- Manometry and pH recording are essential in patients being considered for antireflux surgery



- Manometry and pH
  1. Objectively to quantify the extent of reflux disease
  2. Rule out a diagnosis of achalasia
- Achalasia cardia- Slow undulations of pH rather than rapid burst of reflux
- Complete absence of peristalsis on manometry
- is pathognomonic of achalasia



- A CT scan

Gives the best appreciation of gastro-oesophageal anatomy

Unimportant in most patients with GORD.

This may be important in the context of surgery for rolling or mixed hiatus hernias



# Management

## Medical management

- **PPIs**
- The most effective drug treatment for GORD
- Adequate dose for 8 weeks
- Most patients have a rapid improvement in symptoms
- 'step-down' after 8 weeks
  
- **H2-receptor antagonist**



# Life style changes

- weight loss
- Smoking
- Excessive consumption of alcohol, tea or coffee
- Avoidance of large meals late at night
- Modest degree of head-up tilt of the bed





# Surgery

## Antireflux operations

1. Nissen fundoplication –open / laparoscopic
2. Partial gastrectomy

## Endoscopic treatments

- Radiofrequency ablation (RFA)
- Endoscopic suturing devices that plicate gastric mucosa



# Complications

- Stricture

Respond well to dilatation and long-term treatment with a PPI

- Oesophageal shortening

Collis gastroplasty - This produces a neo-oesophagus around which a fundoplication can be done (Collis–Nissen operation)



- Esophagitis

The most common complication of GORD

1. Grade I – Erythema
2. Grade II – Linear nonconfluent erosions
3. Grade III – Circular confluent erosions
4. Grade IV – Stricture or Barrett esophagus



# Prognosis

- Most patients with GERD do well with medications
- Relapse after cessation of medical therapy is common
- Indicates the need for long-term maintenance therapy
- After a laparoscopic Nissen fundoplication, symptoms resolve in approximately 92% of patients

