Upper GI Conditions

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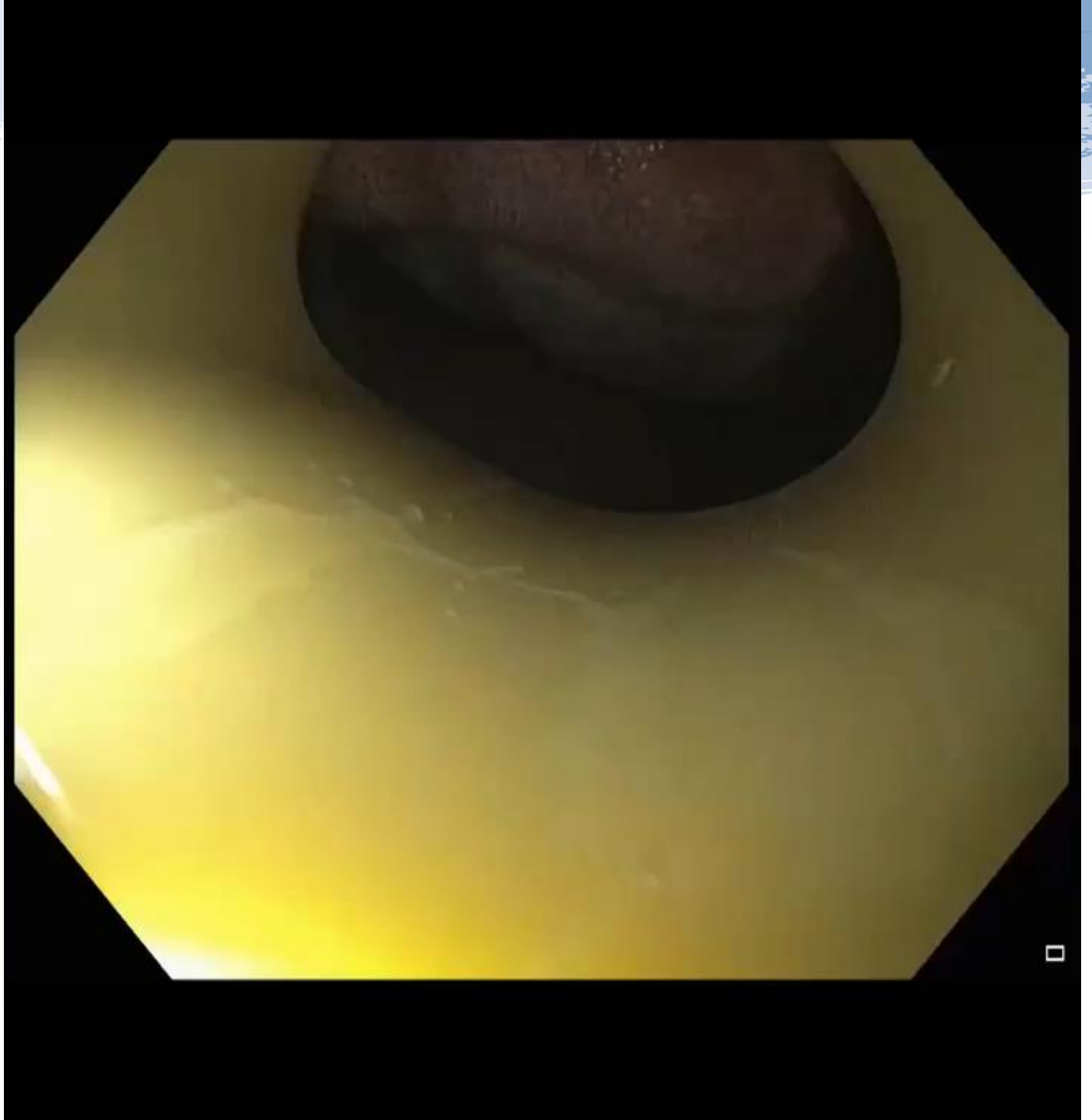
Queensland Health
Queensland Government

Topics

- GORD
- Barrett’s Oesophagus
- Eosinophilic Oesophagitis
- Peptic Ulcer Disease
- H.Pylori
- Coeliac disease
- Questions and discussion

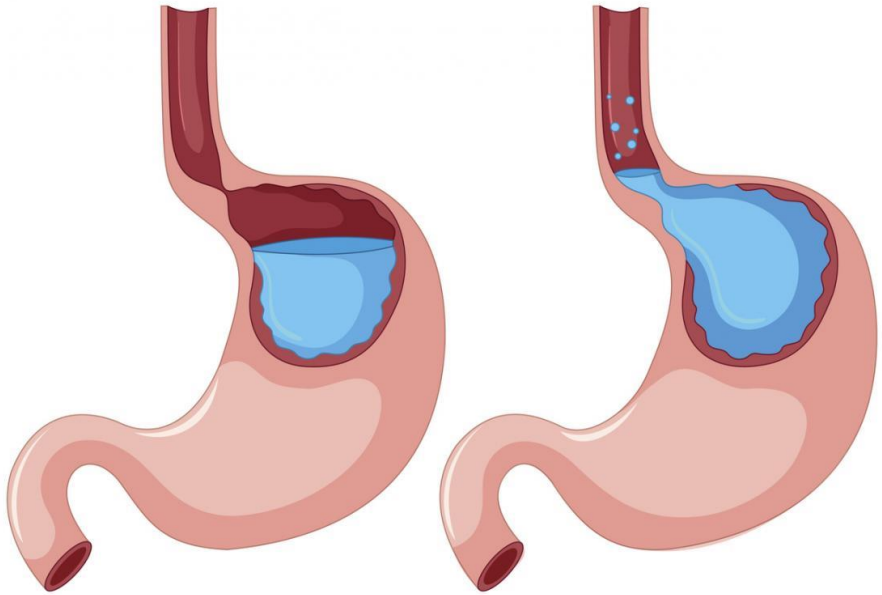
- 58 year old lady
- Persisting reflux symptoms despite PPI therapy
- Ileocolonic and perianal crohn's disease - Well controlled on infliximab
- Psoriatic arthritis – chronic arthralgias. Self treated with low dose prednisolone
- Steroid induced osteoporosis
- Asthma – on Budesonide/formoterol

- Infliximab 5mg/kg IV 8 weekly
- Prednisolone 2.5mg daily
- Azathioprine
- Allopurinol
- Frusemide
- Rosuvastatin
- Pantoprazole 20mg daily
- Amitriptyline 10mg nocte
- Budesonide/formoterol
- Zopiclone
- Metoclopramide
- Domperidone as required
- Vitamin D
- Calcium
- Magnesium
- Turmeric
- Psyllium Husk



Gastrooesophageal Reflux Disease (GORD)

- Loss of pressure gradient between stomach and the lower oesophageal sphincter
  - Inappropriate **intermittent transient** oesophageal sphincter relaxation
  - Increased gastric distention/pressure increases risk
    - (alcohol, caffeine, smoking, obesity, fat intake, OSA)
  - Acid and pepsin, bile and pancreatic enzymes all contribute to symptoms



Gastrooesophageal Reflux Disease (GORD)

- Large overlap between symptoms of GORD, peptic ulcer disease and dyspepsia
  - 40% patients with IBS have reflux symptoms

Typical	Atypical	Alarm
Heartburn	Cardiac-type chest pain	Dysphagia
Regurgitation	Nausea	Painful swallowing
	Belching, bloating	Haematemesis
	Hoarseness	Weight loss
	Throat symptoms	
	Cough	

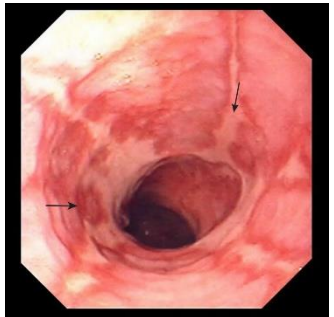
(Culprit of unexplained cough in 40% of patients) – laryngopharyngeal reflux

Diagnosis of GORD

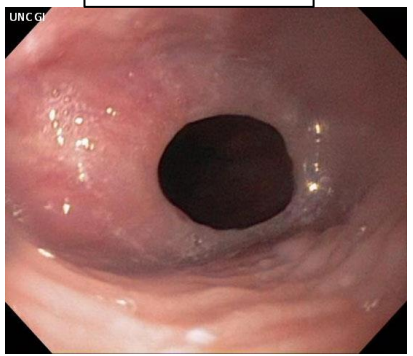
Typical	Atypical	Alarm
Heartburn Regurgitation	Cardiac-type chest pain Nausea Belching, bloating Hoarseness Throat symptoms Cough	Dysphagia Painful swallowing Haematemesis Weight loss

- Symptom based
- Therapeutic trial of high dose PPI therapy similar diagnostic yield to oesophageal manometry/24 hr pH, and better than endoscopy
- **When to perform Endoscopy?**
    - Symptoms persist despite trial of antireflux therapy
    - Alarm/Red flag symptoms
    - Diagnosis unclear
    - Complications are expected
- Only 1/3 of patients with GORD will have endoscopic findings
    - Distinguishes erosive from non erosive disease, and excludes sequelae of GORD

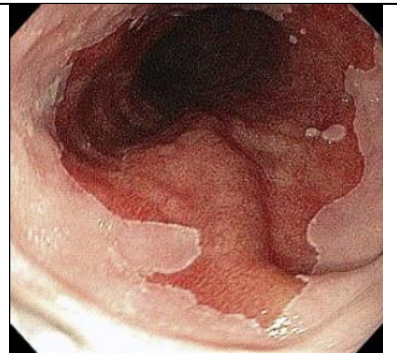
Erosive oesophagitis



Strictures



Barrett's Oesophagus

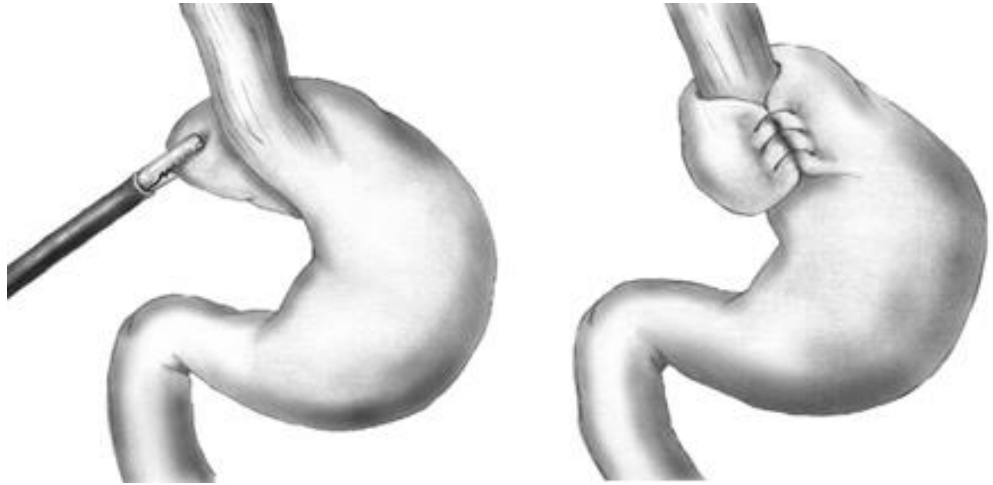


Treatment

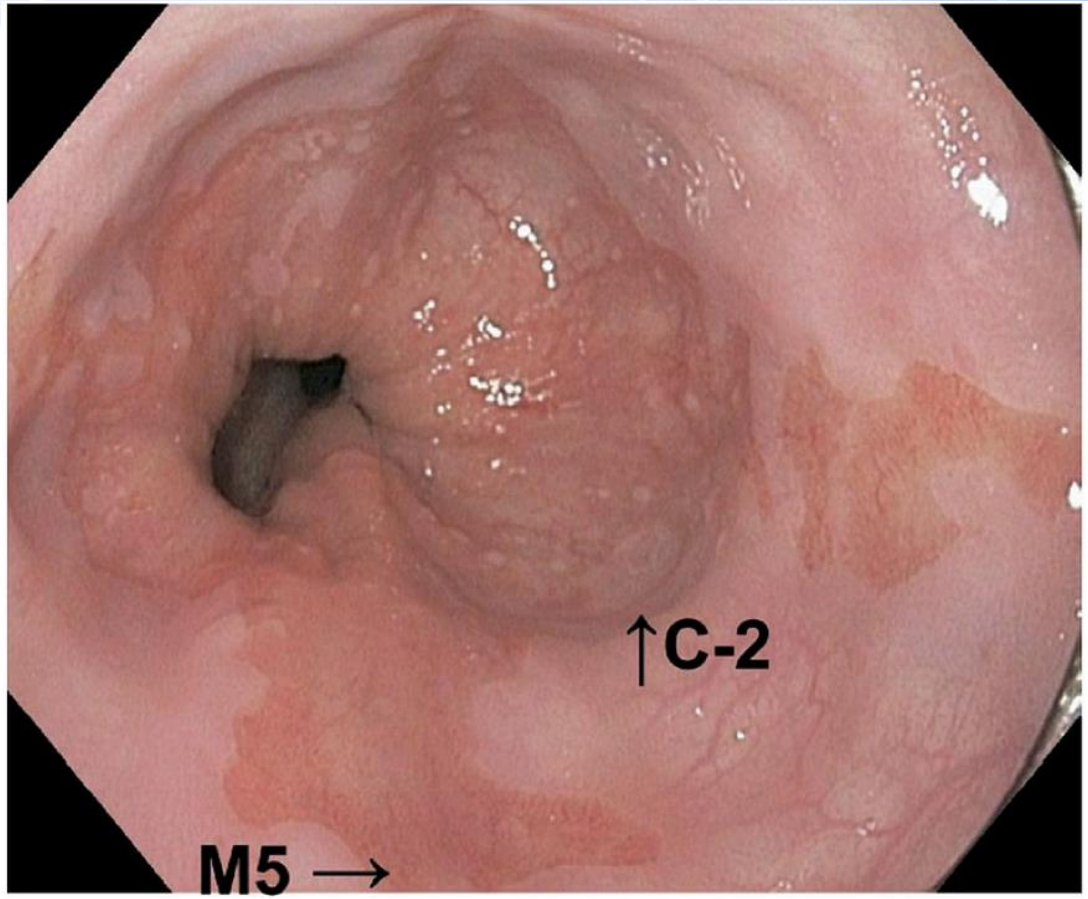
- Dietary and lifestyle changes (Obesity)
- Manage other co-factors –Hiatus hernia, OSA, Gastroparesis, Oesophageal dysmotility
- Avoidance of some drugs (calcium channel blockers, anticholinergics)
- H2 receptor blockers equivalent to PPI in treatment of GORD
- PPI 30-60 mins before meals – Effective in erosive and non erosive GORD
  - Well validated risks :
    - Bacterial gastroenteritis
    - Community acquired pneumonia
    - Osteoporosis and hip fractures
    - Small bowel bacterial overgrowth and C.difficile colitis in the elderly
    - Risk of acute interstitial nephritis 1/1,000,000
- On demand therapy – Aluminium containing antacids.
  - Sucralfate – aluminium containing sucrose salt, insoluble, coats ulcers/erosive changes
- Prokinetics

Treatment

- Fundoplication – laproscopic/evolving endoscopic techniques
  - Refractory to medical therapy or in patients not wanting to use long term therapy
  - Mortality <1%,
  - 90% symptomatic improvement at 5 years.
  - Dysphagia 6%,
  - 10-65% still on PPI



Barrett's Oesophagus

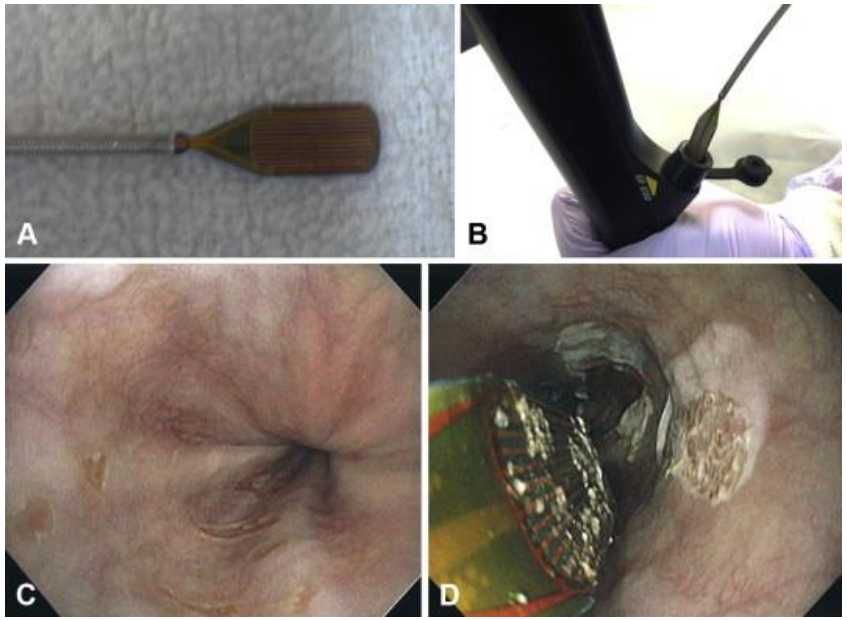


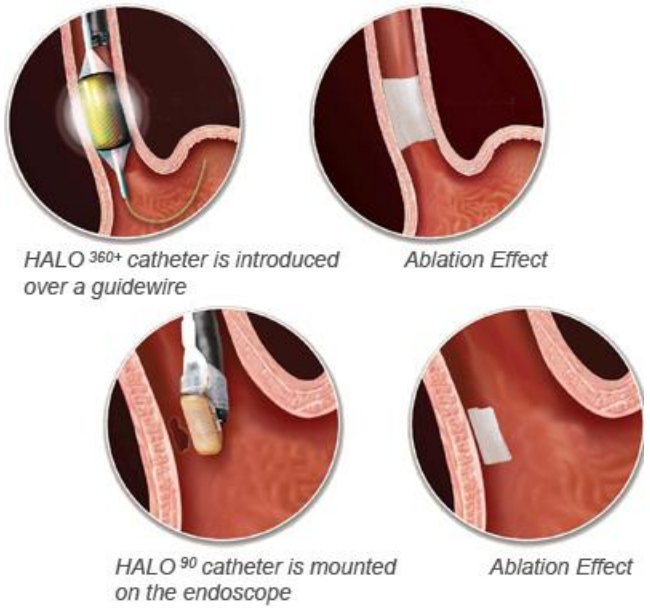
- 1-3% of the population, but >15% of patients with GORD
- Prevalence higher in people >55 y/o age, Men (3-4 times more likely)
- Certain ethnic populations, such as Asians, prevalence very low (<1%)
- Annual risk of progression to cancer 0.1% - 0.3%
- H.Pylori infection associated with a lower incidence of Barrett's?
- Surveillance
  - Short (<3cm segment) – Repeat endoscopy 3-5 years
  - Long (> 3cm segment) – Repeat endoscopy 2-3 years

Source: Images used from Publication Gastroenterology, 131(5), Prateek Sharma, John Dent, David Armstrong et. al, The Development and Validation of an Endoscopic Grading System for Barrett's Esophagus: The Prague C & M Criteria, p1395-1396, Copyright (2006)

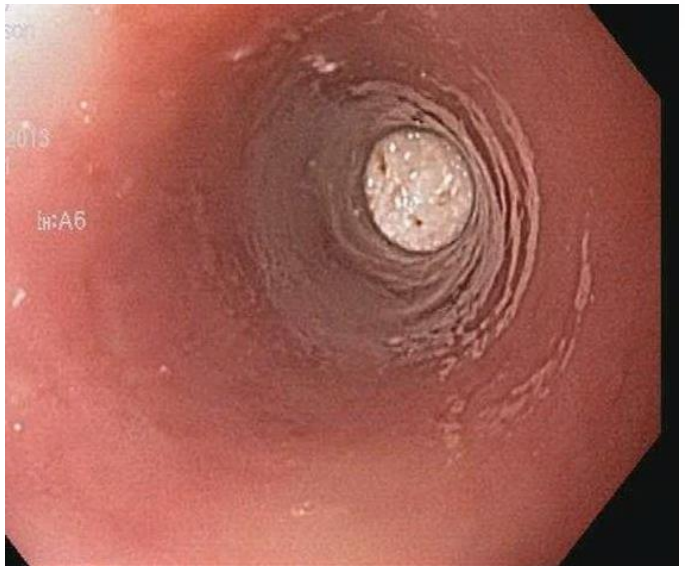
Treatments

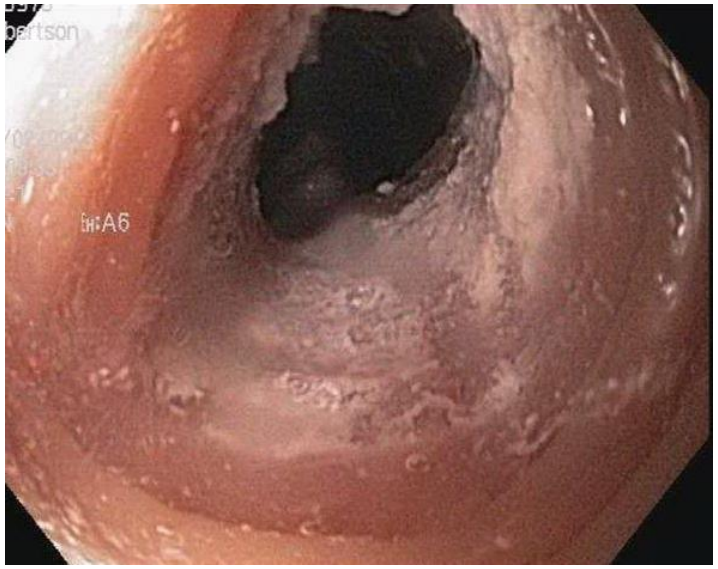
- Treatment of reflux reduces progression of Barrett's to cancer
  - Will not result in regression of Barrett's
- PPI associated with a risk of reducing cancer risk (30% risk reduction)
- Anti-reflux surgery, Management of Obesity, OSA, Hiatus hernia, Smoking
- Surgery
- Endoscopic therapies to treat high grade dysplasia (RFA, Endoscopic Mucosal Resection)

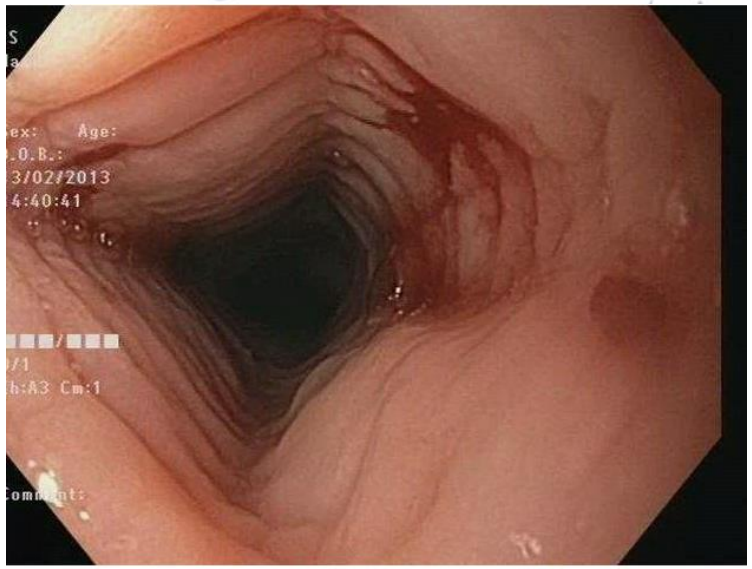




Eosinophilic Oesophagitis (EOE)



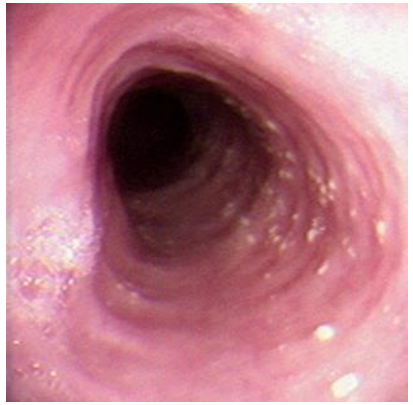
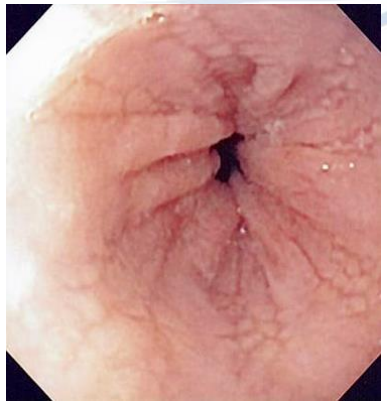
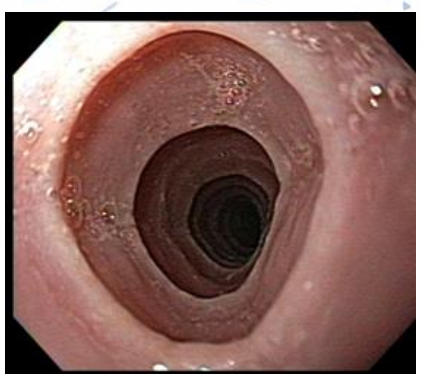




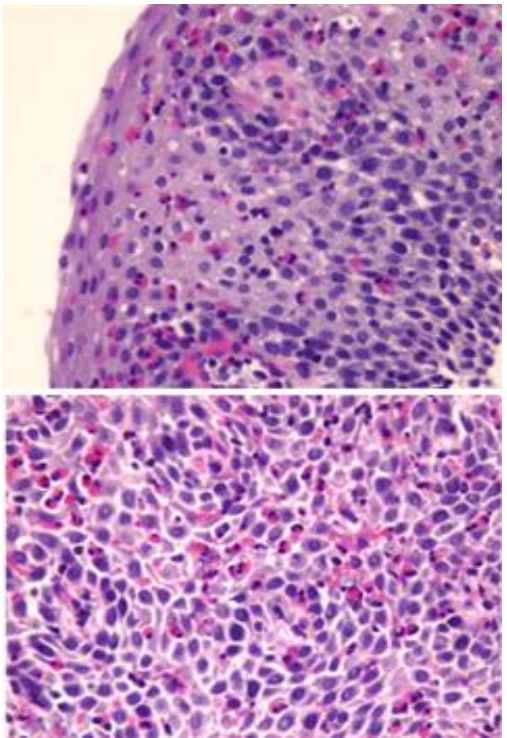
- 1-4% of patients with refractory reflux have EoE
- Symptoms – Dysphagia and **Food impaction**
- Oesophageal strictures are common (1/3rd of patients)
- 1:100 Adults, 1:10,000 Children, 75% of patients will have atopy.
- No association with dysplasia or malignancy

Diagnosis

- Endoscopic features
  - Exudates
  - Longitudinal furrows,
  - Rings

- Lower and mid oesophageal biopsies showing at least 15 eosinophils per high power field
- Peripheral eosinophilia in 40-50% patients

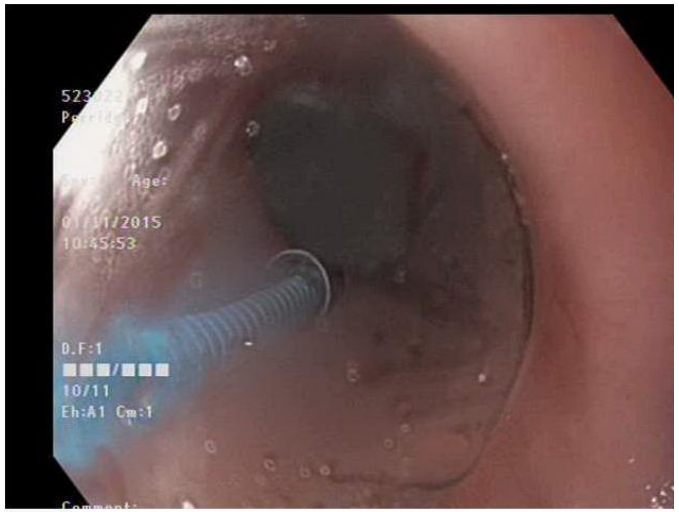


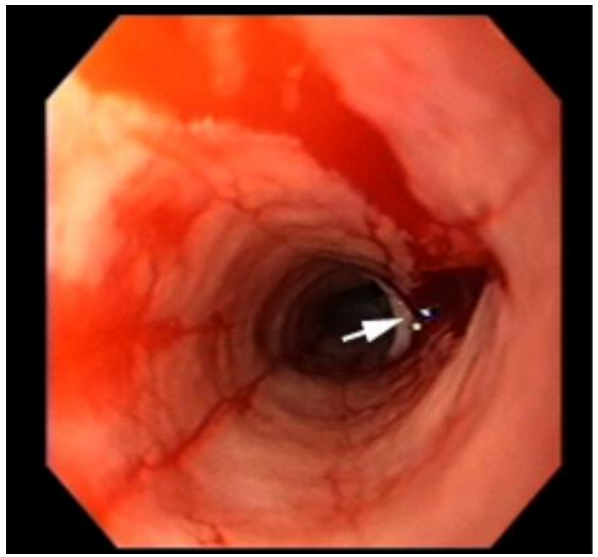
Treatment

- 1/3 patients will have a good clinical and histological response to PPI alone
- Swallowed corticosteroids
- Orally disintegrating budesonide tablet – Jorveza
- Swallowed Fluticasone MDI without a spacer
- Budesonide respule viscous slurry
- Dietary strategies
  - **Milk, Egg, Soy, Wheat,** Peanuts/Treenuts, Fish/Shellfish Meat, Oats
  - Six Food elimination diet with serial endoscopies to assess response
  - Four food elimination diet
  - Two food elimination diet
- Allergen testing via RAST/Skin prick testing not helpful

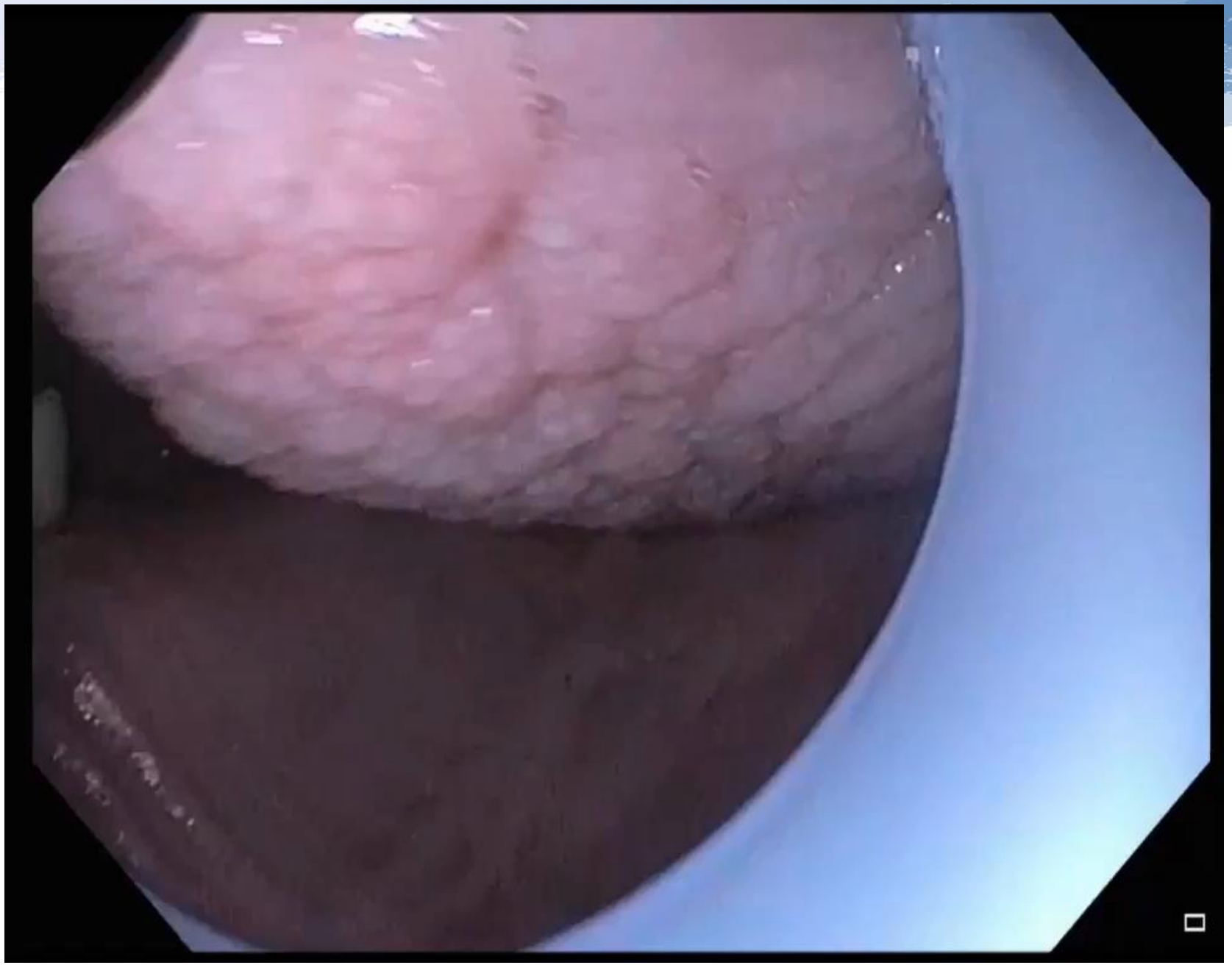
Oesophageal Dilation

- Reserved for patients with dense fibrotic rings that are not responsive to other therapies
- High risk of perforation – 5-7%



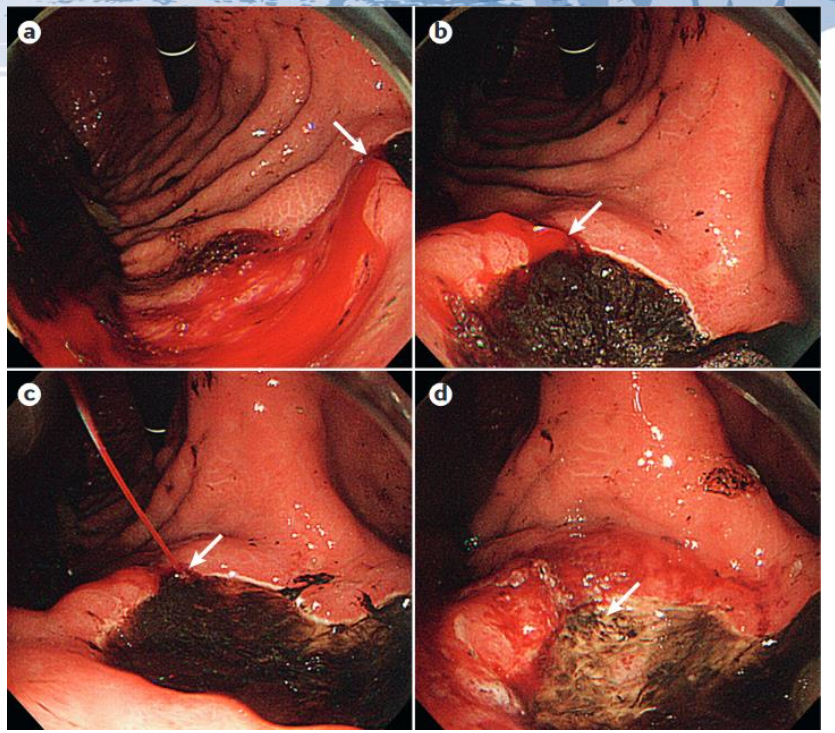


- 67yF
- Morbid Obesity (BMI >40), HTN, Dyslipidaemia, OA+Gout with regular NSAID use. Not on antireflux therapy.
- Admitted to Hervey Bay with septic arthritis in right shoulder needing washout. MRSA bacteraemia and VRE +’ve - needing prolonged IV AB therapy.
- Large volume melaena in Hervey Bay – endoscopy showed multiple duodenal ulcers – treated at endoscopy with adrenaline with haemospray. PPI commenced.
- Transferred to RBWH with septic osteomyelitis/discitis #T4-T5 needing decompression and fusion – lower limb weakness improving thereafter.
- Ongoing melaena, but uptrending Hb and improving Urea. H.Pylori negative
- NSAIDS ceased, IV PPI continues. Endoscopy requested to reassess



Peptic Ulcer Disease

- Affects 5-10% of the population
- GI bleeds from peptic ulcer disease has decreased by about 30% in the last 20 years
  - Use of PPIs, H.Pylori treatment
- Abdominal pain poorly predictive of presence of an ulcer
  - Foregut symptoms
  - Bleeding (15%),
  - Perforation or penetration
  - Gastric outlet obstruction (1-2%)

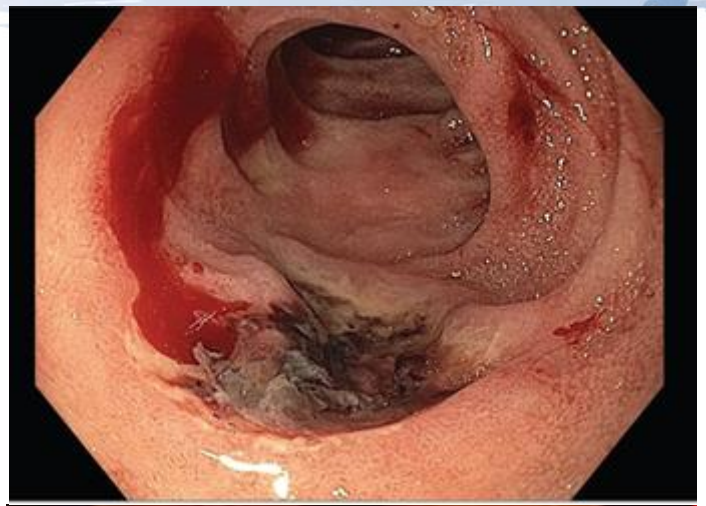


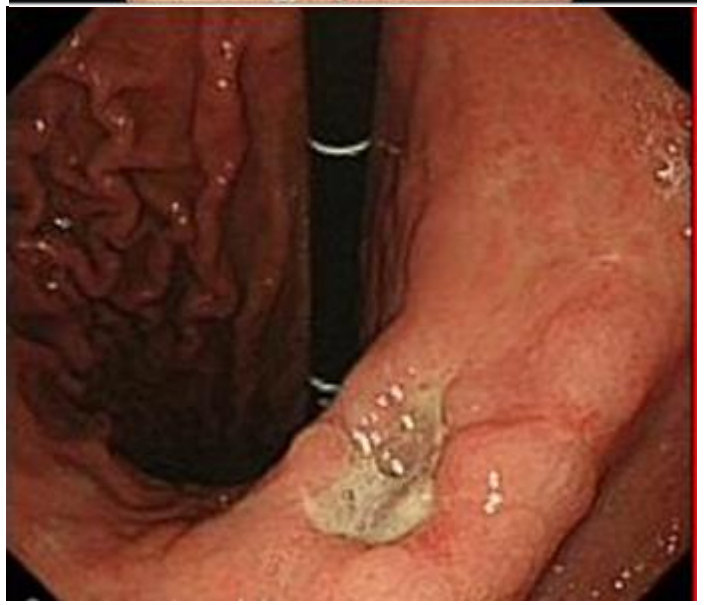
- Peptic ulcer related bleeding in elderly individuals is increasing – increased hospital admission and ulcer complications
    - Aging population, NSAID and Aspirin use
    - Chronic diseases (pulmonary disease, renal failure, cirrhosis)
- NSAID use overtaking H.Pylori as a culprit (Cause in up to 44% in some studies)
- Corticosteroids can contribute to peptic ulceration with other factors (not alone)

Types of ulcers

- Duodenal: 90% in the first 3cm – rarely malignant

- Gastric – Greatest risk of malignancy in body or fundus – repeat endoscopy to document healing

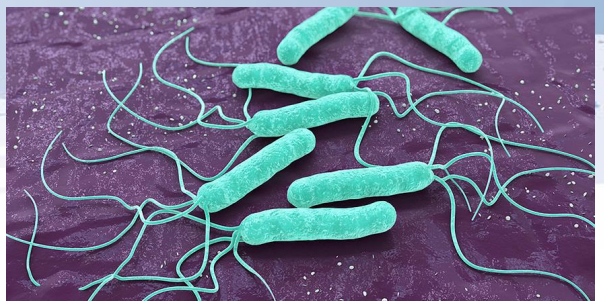




Prevention and Treatment of Peptic Ulcers

- Platelet aggregation reduces by >50% at a pH <6.4
- PPI prophylaxis suggested in the presence of risk factors
  - Long term NSAID use or low dose aspirin +/- corticosteroids (enhanced acid secretion, reduction in healing supressed PG synthesis.
- Misoprostol – adverse effects are common
- H.Pylori eradication, PPI, H2 receptor blockade, Sucralfate
- In refractory ulcer bleeding non amenable to endoscopic therapies
  - Embolisation, Surgery

H. Pylori

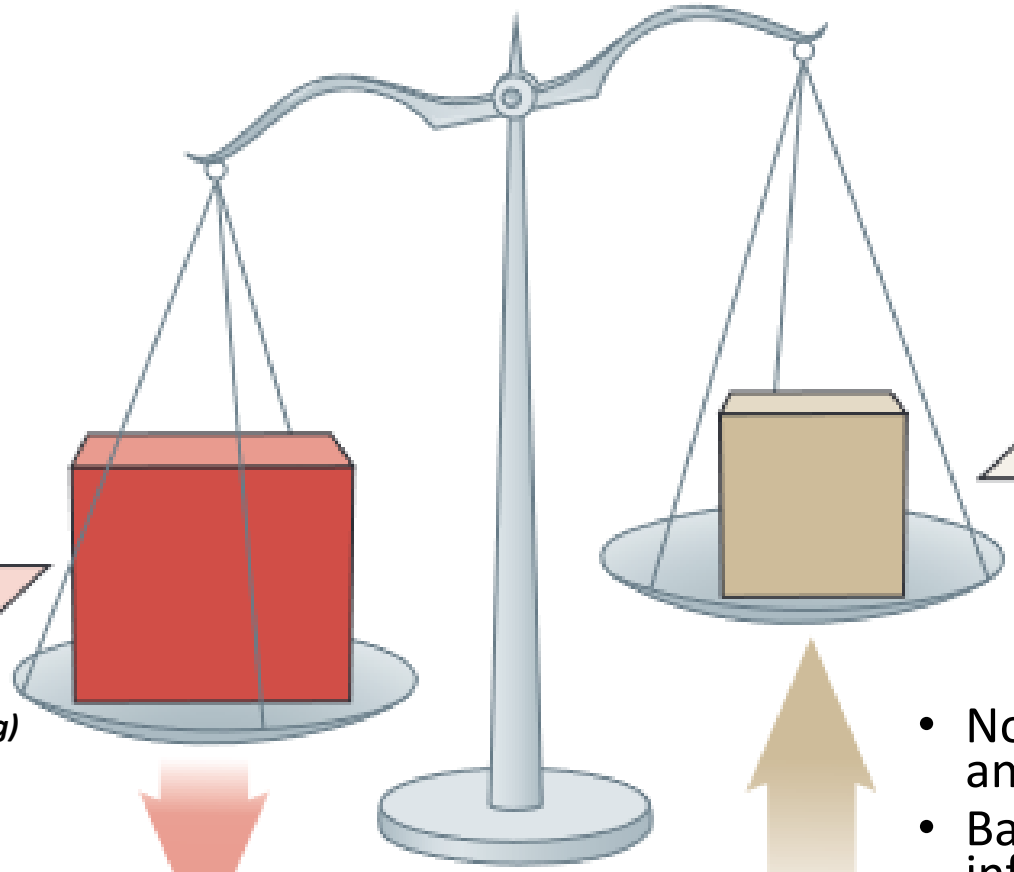


- Transmission is oral-oral or faecal-oral
- Leads to ulceration in 15% only of patients
- Majority will have gastritis, but the distribution can differ
  - Antrum predominant -> irrigation of G cells -> increased acid, duodenal inflammation and ulceration
  - Pan gastritis -> chronic inflammation, atrophy, intestinal metaplasia, gastric ulcers

Diagnosis

- Invasive
  - Rapid urease test (80-95% sensitive /95-100% specific)
  - Histology (80-90/ >95)
  - Culture (challenging)
- Non invasive
  - H.Pylori IgG (>80/>90) – low titre positivity persists after treatment
  - Urea breath test (>90/>90) – cease PPI 2-4 weeks before testing
  - Stool antigen – not established for confirming eradication

When to investigate and treat



- Gastric cancer
- MALT lymphoma
- Peptic ulcer disease
- Dyspepsia *(Variable data - 1/3 of pts responding)*
- Idiopathic thrombocytopaenic purpura

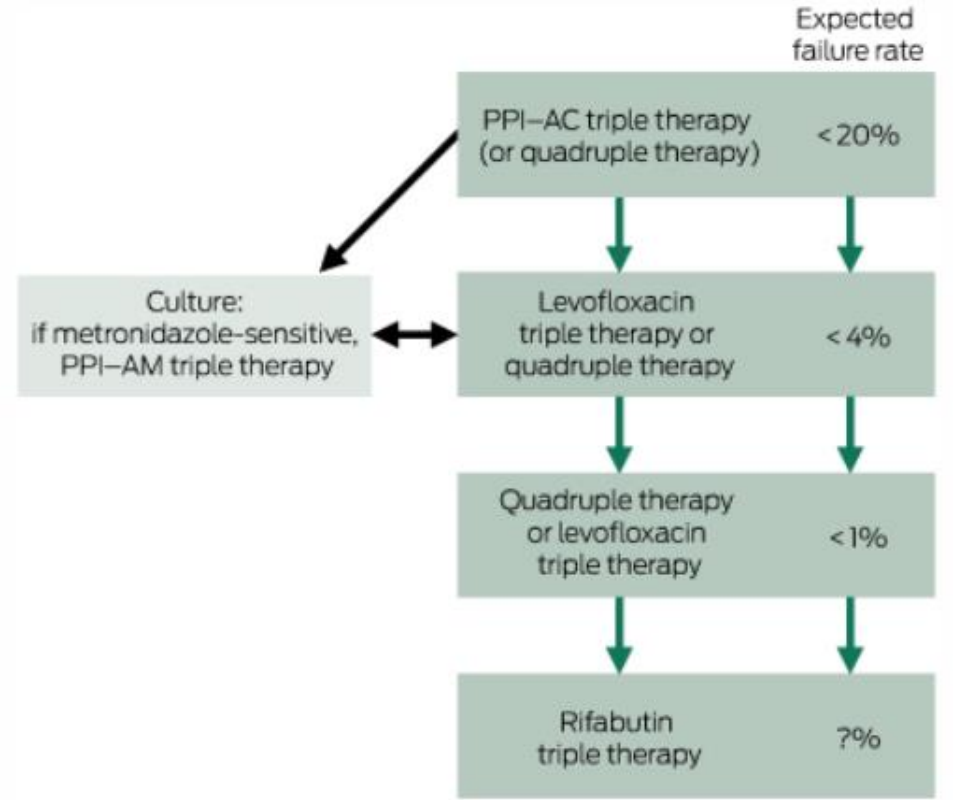
- GERD
- Barrett oesophagus
- Oesophageal adenocarcinoma
- Atopic diseases
- Obesity
- Antibiotic resistance
- Adverse events of therapy

- Before commencing aspirin
- Before commencing long term NSAIDS
- Iron deficiency

- No causal association between H.Pylori and GORD
- Barrett's more common in patients not infected with H.Pylori
- Theoretical increase in GORD symptoms with eradication (restitution of parietal cell mass after clearance -> increasing gastric acid secretion

H.Pylori treatment

- Guided by patients previous antibiotic exposure and local resistance rates
- (clarithromycin resistance low, metronidazole resistance high in AUS)

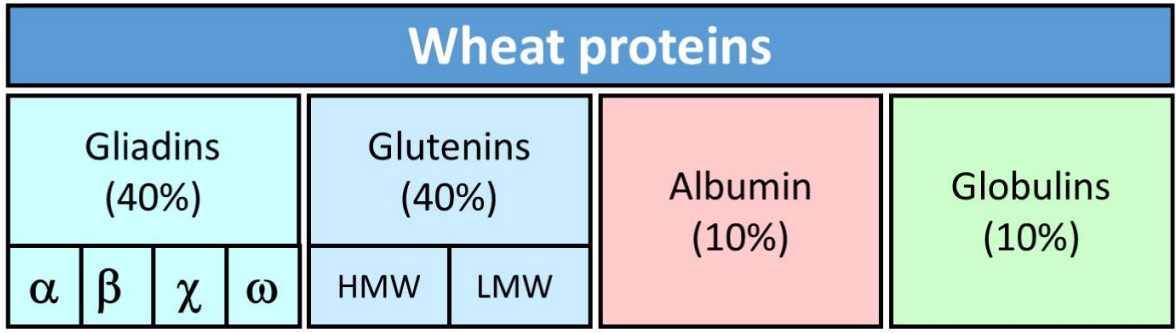


If failure of therapy

- What are the expectations of clearance?
- Risks and side effects of second/third line therapy
  - Bismuth/ Metronidazole/ Levofloxacin – nausea, constipation, diarrhoea
  - Rifabutin – neutropenia

PPI = proton pump inhibitor. PPI–AC = PPI, amoxycillin, clarithromycin. PPI–AM = PPI, amoxycillin, metronidazole. Levofloxacin triple therapy = PPI, amoxycillin, levofloxacin. Quadruple therapy = PPI, bismuth subsalicylate, tetracycline, metronidazole. Rifabutin triple therapy = PPI, amoxycillin, rifabutin. * See text for details of regimens. For doses, duration and availability, see *Therapeutic guidelines: gastrointestinal.* Version 5.[41]

Coeliac Disease

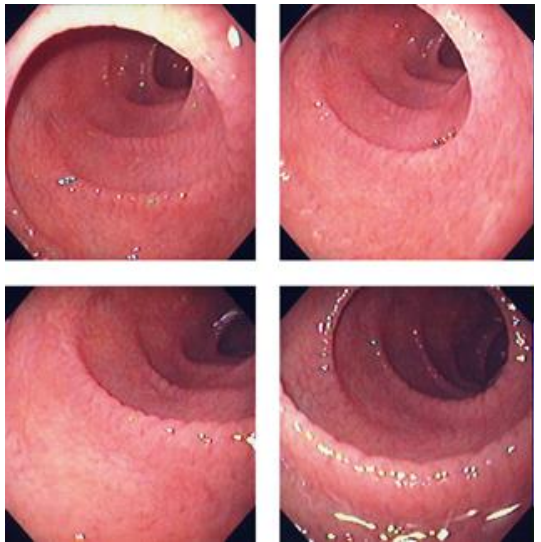


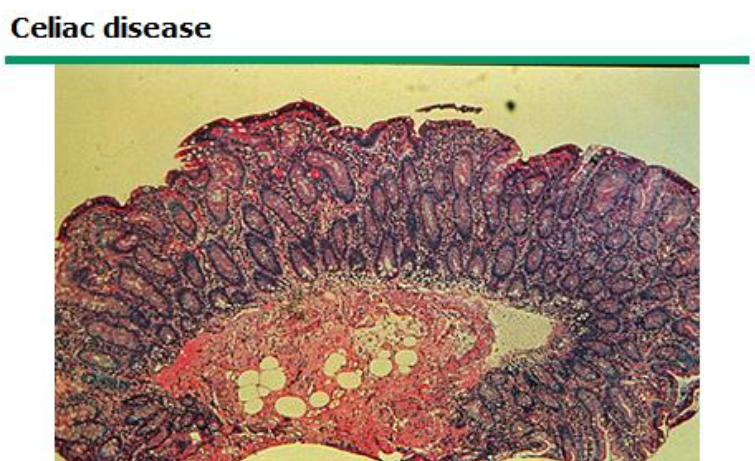
- Gliadin in wheat/barley and rye
  - Pure oats are gluten free but cross-contamination is common
- 1 in 300 in Europe, 1 in 22 if 1st degree relative
- 2 peaks in diagnosis: infancy and around 40 (milder presentation ?sensitive to fewer gliadin variants)

- Malabsorption "classical CD"
  - Diarrhoea, steatorrhoea, wt loss, failure to thrive
- 'Non-classical CD'
  - **Anaemia**, vague abdominal symptoms (IBS), Reflux
- Asymptomatic patients
  - Individual has a CD-assoc disorder (T1DM, Thyroid disease, PSC/PBC Abnormal LFTs, Turner's, Downs Syndrome (16%)
  - or has non-classical symptoms and has a first degree relative with CD

Diagnosis

- Serology – Affected by gluten intake
  - IgA tTg (May be low in people with IgA deficiency)
  - Anti-gliadin antibodies (some IgA assays +'ve in 10% of healthy people)
- Upper endoscopy, and biopsy whilst on a gluten-containing diet (4 weeks) and off steroids
  - Villous atrophy is required histologically
  - Visible fissures/scalloping of folds macroscopically but not always





Diagnosis

- HLA Typing – DQ2.5 and DQ 8
  - **Not affected by Gluten Intake**
  - Very high negative predictive value (95%)
  - Poor PPV (DQ2 +'ve in 0-40% of population, DQ8 between 0-20%)
  - Useful as a "rule out" strategy in patients who fail to respond to a gluten free diet, or are poorly tolerant of a GFD

Monitoring and follow up

- Dietary adherence - monitored by serology + interview
  - Serology should be negative at 6 months on a gluten free diet
  - Symptoms should improve in ~2 weeks, may take up to 12 months
- Annual assessment of small intestinal absorption and assoc. autoimmune conditions
  - FBC, Ferritin, Folate, B12, Calcium, ALP, Vit D
  - TFTs, Glucose, LFTs
- Osteoporosis
- Villous atrophy may take up to 2 years to resolve on GFD

Question 1

- A 22 year old male has a 6 month history of intermittent diarrhoea. Serum IgA TTG is low (normal) serum anti-gliadin is slightly raised. You think coeliac disease is **UNLIKELY**, but he has gone onto a gluten free diet and feels better. He does **not** want to reintroduce gluten into his diet to facilitate further investigations.

- Which of the following results if found would be most useful in ruling out a diagnosis of coeliac disease

A. Negative HLA DQ2 and 8 testing
B. Negative IgA anti-endomysial Ab
C. Normal small bowel biopsy
D. Negative IgG anti-gliadin Ab
E. Repeat IgA TTG

Not affected by Gluten Intake
Very high negative predictive value (95%)
Useful as a "rule out" strategy in patients who fail to respond to a gluten free diet, or are poorly tolerant of a GFD

Question 2

The risk factor with the greatest impact in development of oesophageal cancer is:

A. Achalasia
B. Barret's oesophagus
C. Low fibre diet
D. Smoking
E. Reflux

Known risk factors for oesophageal cancer

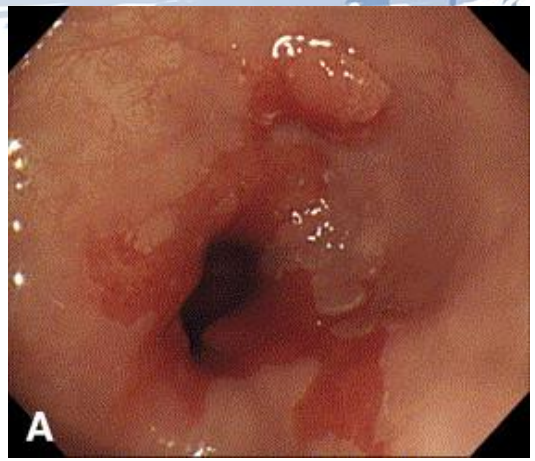
Adenocarcinoma

- being overweight or obese
- medical conditions, including gastro-oesophageal reflux disease (GORD) and Barrett's oesophagus
- smoking
- older age (being over 60)
- having an inherited genetic condition such as Peutz- Jeghers syndrome (PJS) or Cowden syndrome

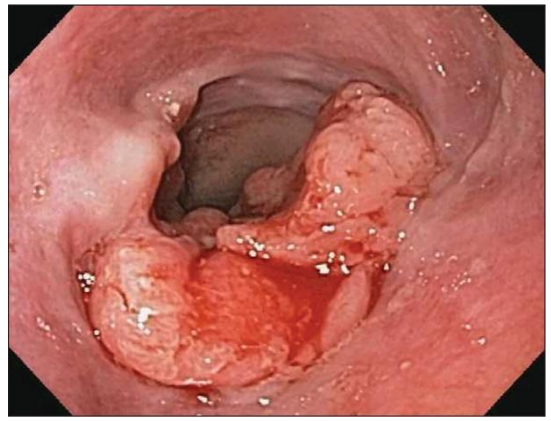
Squamous cell carcinoma

- drinking alcohol
- smoking
- older age (being over 60)
- drinking very hot liquids

Risk factors for development of Oesophageal Cancer in patients with Barrett's



- Male gender – 3-4 times more likely than women
- Age >55
- Length of Barrett's
  - <3cm - Risk of cancer 0.19% per year
  - >3cm - Risk of cancer 0.33% per year
- Signs of reflux at endoscopy – 3 fold increased risk
  - oesophagitis, associated ulcers, nodules and strictures
- **Smoking** (Increases both risk adenocarcinoma related to Barrett's (2.4 fold increased risk) and squamous cell oesophageal cancer (3 fold increased risk)



Question 3

- A 35-year-old HIV positive woman has had pain on swallowing for the past week. No abnormal physical examination findings are noted. Upper GI endoscopy is performed. There are 3 sharply circumscribed 0.3 to 0.8 cm ulcers in the lower oesophagus. She is most likely to have infection with which of the following organisms?

A. H.Pylori
B. Candida albicans
C. Herpes Simplex Virus
D. Mycobacterium avium complex
E. Cytomegalovirus
F. Human Herpes Virus 8
G. Cryptococcus

Question 3

A. H.Pylori – Assoc with chronic gastritis + reflux oesophagitis,

B. Candida albicans – exudates and superficial ulceration

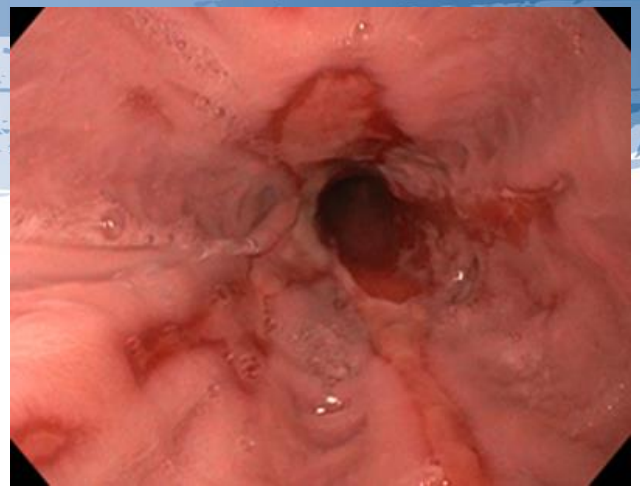
C. Herpes Simplex Virus – “Punched-out” ulcers – immunocompromised patients

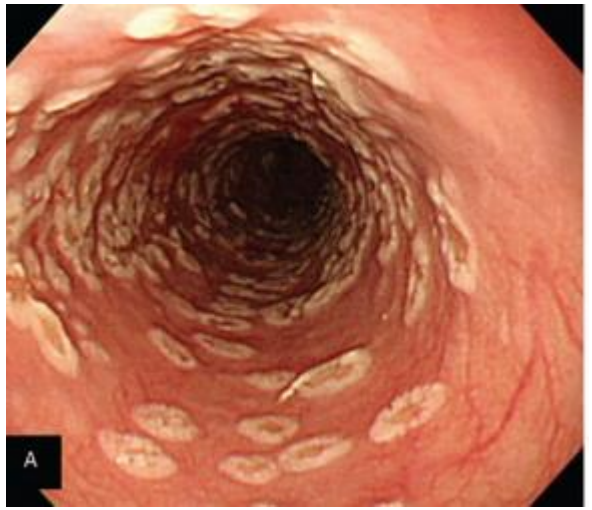
D. Mycobacterium avium complex – typically small bowel involvement with granulomata.

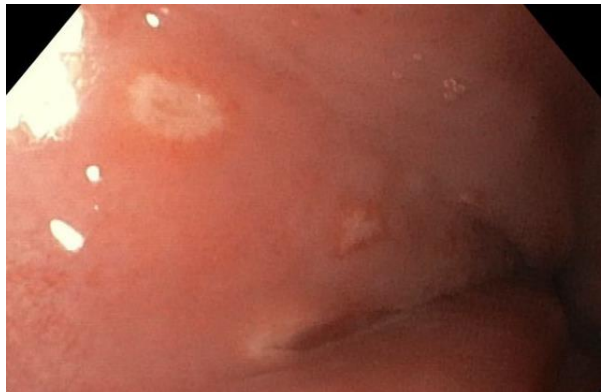
E. Cytomegalovirus – can produce ulceration in immunocompromised patients but small and irregular.

F. Human Herpes Virus 8 – Kaposi sarcoma in MSM – nodular masses

G. Cryptococcus - granulomata





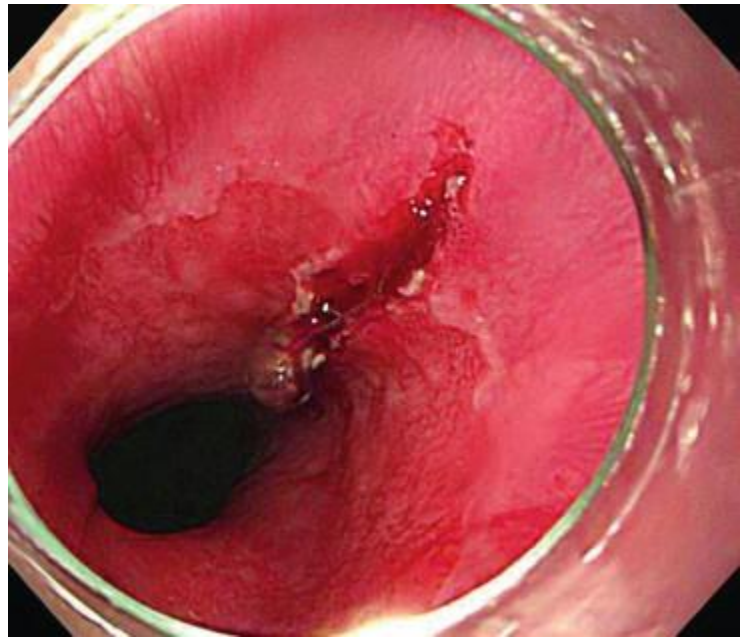


- A 41-year-old man has a history of drinking 1 to 2 litres of whisky per day for the past 20 years. He has had numerous episodes of nausea and vomiting in the past 5 years. He now experiences a bout of prolonged vomiting, followed by massive hematemesis. On physical examination his vital signs are: T 36.9°C, P 110/min, RR 26/min, and BP 80/40 mm Hg lying down. His heart has a regular rate and rhythm with no murmurs and his lungs are clear to auscultation. There is no abdominal tenderness or distension and bowel sounds are present. His stool is negative for occult blood. Which of the following is the most likely diagnosis?

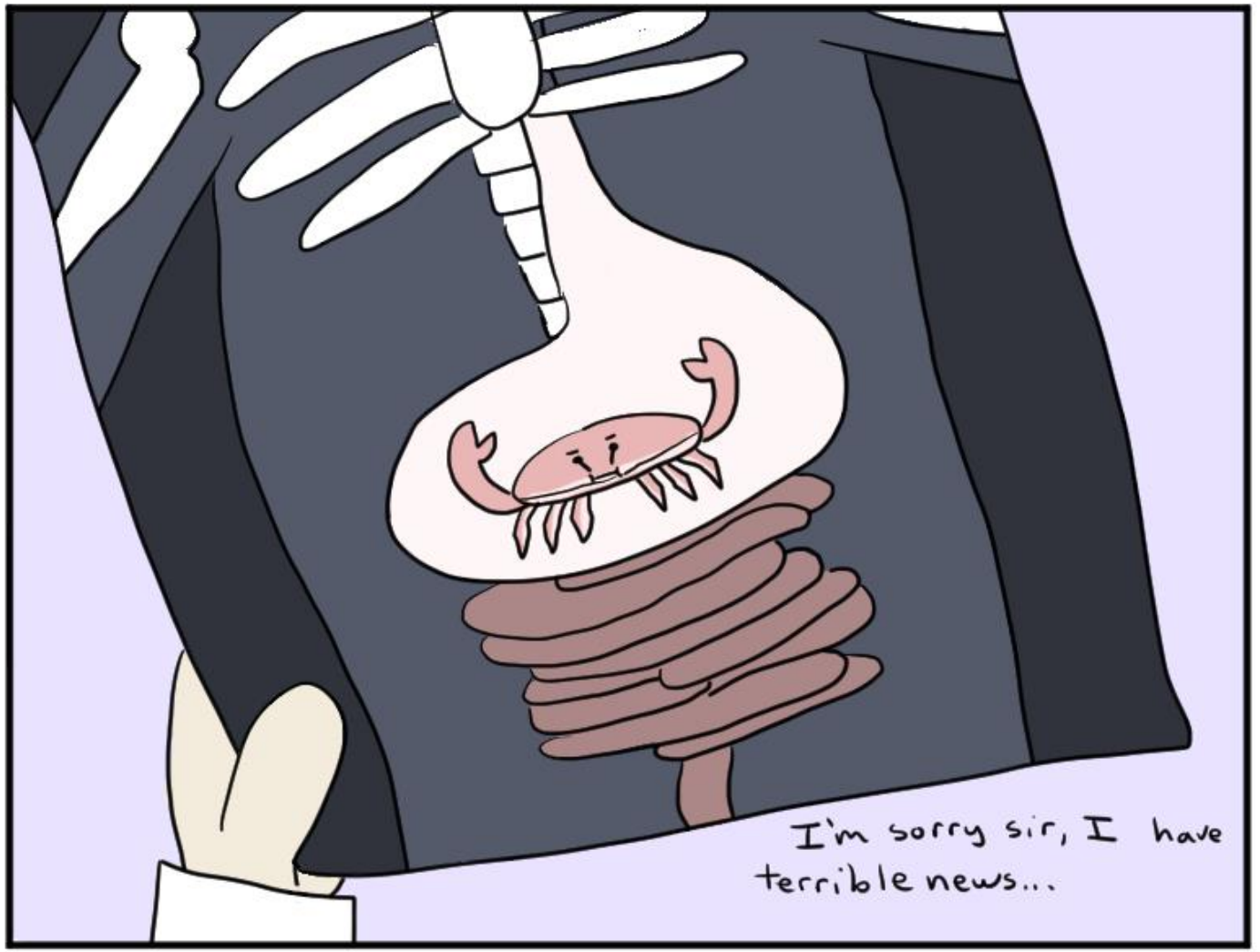
A. Hiatus hernia
B. Mallory-Weiss tear
C. Barrett's oesophagus
D. Oesophageal squamous cell carcinoma
E. Oesophageal stricture

Mallory-Weiss tear

- Forceful prolonged vomiting -> mucosal tear at the GOJ -> exposure of submucosal veins that bleed profusely.
- Often don’t need treatment – clipped/glue/banded
- 60% of GI bleeds in a cirrhotic patient is from a non-variceal source (Peptic ulcer disease, MWT, etc)



Thank you


I'm sorry sir, I have terrible news...
Stomach Cancer
@TopHatTurtles 8-15-19