PEPTIC ULCER DISEASE & GASTRITIS

PUD is a chronic illness manifested by recurrent ulcerations in the stomach & proximal duodenum; the great majority of which are directly related to infection with *H. pylori* or NSAID use.

Gastritis is acute (or chronic) inflammation of the gastric mucosa & has various aetiologies.

PATHOPHYSIOLOGY.

A balance between destructive & protective gastric secretions determines whether PUD occurs or not.

Protective	Harmful
Prostaglandins	HCl acid
Mucous	Pepsin
Bicarbonate	H. pylori
-	NSAIDs

H. pylori

- present in ~95% of DU cases & ~70% of gastric ulcers
- produces *urease* plus cytotoxins, proteases etc. that disrupt gastric mucosa.
- NB. only 10-20% of infected people develop PUD.
- Associations w/ MALT-lymphoma & stomach Ca.

Other associated risk factors.

- NSAID use.
    - ↓ mucous & HCO3 production, ↓ mucosal blood flow.
- Smoking.
- Genetic predisposition.
- Chronic renal failure / transplant
- Cirrhosis
- COPD
- Emotional stress can predispose to PUD.
- Acute severe illness [shock, trauma, burns, organ-failure]

Dyspepsia.

- Multiple causes including oesophagitis (20%), GORD (20%), PUD (10%).
- 2% develop Barrett oesophagus & 1% develop malignancy.
- ~50% have “functional dyspepsia”, ie. no abnormalities on endoscopy.

Clinical Features.

Burning epigastric pain is the most classic symptom of PUD.
- Pain may also be sharp, dull, aching, “empty”.
- Recurs as gastric contents empty; recurrent at night.

Epigastric pain, nausea & vomiting may represent acute gastritis.
- Bleeding is a common associated symptom.

Consider presentation of complications;
- Acute severe pain - peritonitis
- Pain radiating to the back - pancreatitis (posterior perforation)
- N&V - outlet obstruction (from scarring or oedema)
- Haematemesis, melaena or coffee-ground emesis - UGIT haemorrhage

Examination;
- Epigastric tenderness [poor Sn & Sp]
- Look for complications [ie. peritonitis, distension etc]

Diagnosis.

Definitive diagnosis *cannot* be made on clinical grounds.
Can be strongly suspected based on history, benign examination etc.

Consider & aim to exclude differential diagnoses such as GORD, pancreatitis, cholecystitis/cholelithiasis, AAA or malignancy.

Concerning features needing urgent endoscopy
Age > 55 years
Unexplained weight loss
Early satiety
Persistent vomiting (or anorexia)
Dysphagia
Anaemia or GI bleeding
Abdominal mass
Jaundice

Gold standard for PUD is visualisation of an ulcer on endoscopy.

H.pylori should also be investigated for (and treated). Consider serology, urease-breath tests or stool antigen testing.
- Can also be detected from biopsy samples taken at endoscopy.
- Breath testing (Sn&Sp >95%) are CI in children & women of child-bearing age.

Treatment.

Goals of therapy include (1) healing the ulcer, (2) relieving pain & (3) preventing complications & recurrence.

Traditional therapy for PUD includes;
- PPIs.
- H2-receptor agonists
- Sucralfate
- Antacids

"Triple therapy" for H.pylori infection.

1. PPI
2. clarithromycin
3. amoxicillin or metronidazole

7-14 days of therapy is 70-90% successful at eradication.

Disposition includes;
1. Empiric therapy w/ conventional anti-ulcer therapy
    - PPI or H2-blocker with antacids for breakthrough pain.
2. Immediate referral for endoscopy
3. Non-invasive testing for H.pylori ± eradication therapy.

Complications.

HAEMORRHAGE.
- PUD is the most common cause of UGIT bleeding
- Treatment:
    - Haemodynamic resuscitation
        - Restrictive >> liberal blood transfusion [*NEJM 2013;368:11-21*]
    - Bolus PPI + infusion
        - ↓ rate of bleeding & need for surgery, IF started after endoscopic haemostasis is achieved.
        - Unclear if benefit exists whilst patient waits for endoscopy
- Endoscopy required.
    - Injection vs thermal therapy vs clipping.
- Surgery vs angiography for those who fail endoscopy.

PERFORATION.
- Abrupt severe epigastric pain w/ resulting chemical/bacterial peritonitis
- May be presentation of PUD.
- Treatment:
    - Haemodynamic resuscitation
    - NG-tube on suction
    - Broad-spectrum ABx.
    - Surgical referral.

OBSTRUCTION.
- Fluid resuscitation & correction of electrolytes
- NG-tube.
- Surgical admission (Conservative vs Operative Mx)