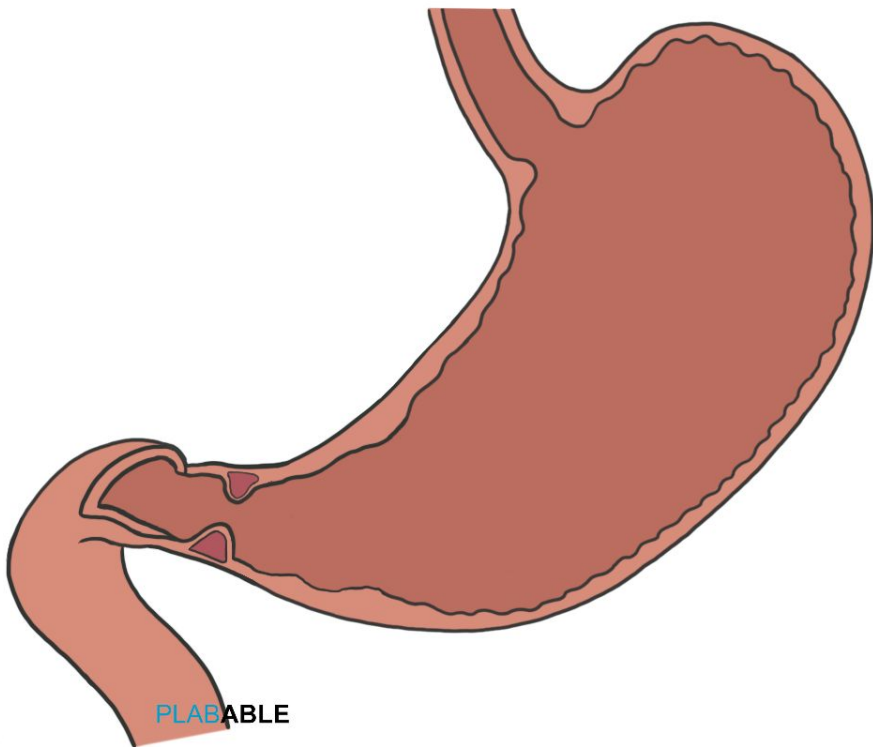


PLABABLE

GEMS 

VERSION 1.1

GASTRO ENTEROLOGY



Acute Pancreatitis

Presentation

- Upper abdominal pain that radiates to the back, relieved on sitting forward
- Tachycardia
- Vomiting
- Shock
- Periumbilical bruising (**Cullen's sign**)

Causes

- **B**iliary - Gallstones or perampullary tumour
- **A**lcohol
- **D**rugs - Thiazides, steroids, valproate, etc.
- **H**ypertriglyceride / Hypercalcemia
- **I**diopathic
- **T**rauma



Cullen's sign

Acute Pancreatitis

Investigations

- ↑ Serum amylase and lipase (>3 times the normal)
- CT scan with contrast

Treatment

- IV fluids and NPO
- Pain killers
- Surgery only when pancreas is necrosed

Complications

- ARDS
- Shock
- DIC
- Hypocalcemia

Chronic Pancreatitis

Presentation

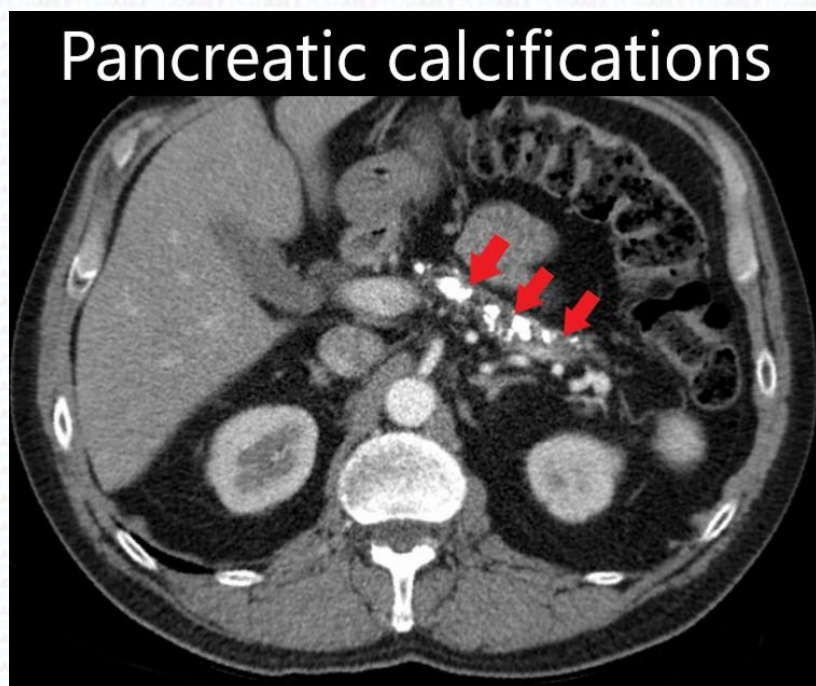
- Episodic epigastric pain radiating to the back
- Steatorrhea → malabsorption → weight loss
- Diabetes mellitus
- Serum amylase not as high as seen in acute pancreatitis

Investigation

- Ultrasound abdomen
- X-ray abdomen → diffuse calcifications
- CT abdomen with contrast → pancreatic calcifications

Treatment

- Analgesics
- Pancreatic enzyme supplements
- Fat soluble vitamins



HELLP Syndrome

- **H**emolysis
- **E**levated **L**iver enzymes
- **L**ow **P**latelet

Seen in severe pre-eclampsia during pregnancy

Risk factors

- Gestational hypertension
- Nulliparity
- Multiple pregnancy
- Antiphospholipid antibody syndrome

Management

- Delivery of the fetus (definitive if >34 weeks)
- Transfusion of blood products
- Plasma exchange in severe cases
- Magnesium sulfate to prevent eclampsia

Peptic Ulcer

Presentation

- Epigastric pain
- Nausea

Aetiology

- *H. pylori*
- NSAIDs
- Steroids
- Zollinger - Ellison syndrome
- Smoking and alcohol

Investigations

- H. pylori testing:
 - C-13 urea breath test
- Endoscopy

Triple therapy for *H. pylori*

- PPI (omeprazole)
- Amoxicillin
- Clarithromycin

Site of Absorption

Brain trainer:

Which nutrients are absorbed where in the small intestine and what is the significance of this?

- Duodenum → iron
- Jejunum → most nutrients
- Ileum → bile salts + B12

Diseases (e.g. Crohn's disease, coeliac disease) or surgery which affects these areas can give rise to the following:

- Duodenum → microcytic anemia
- Ileum → megaloblastic anemia or gallstones

Achalasia Cardia

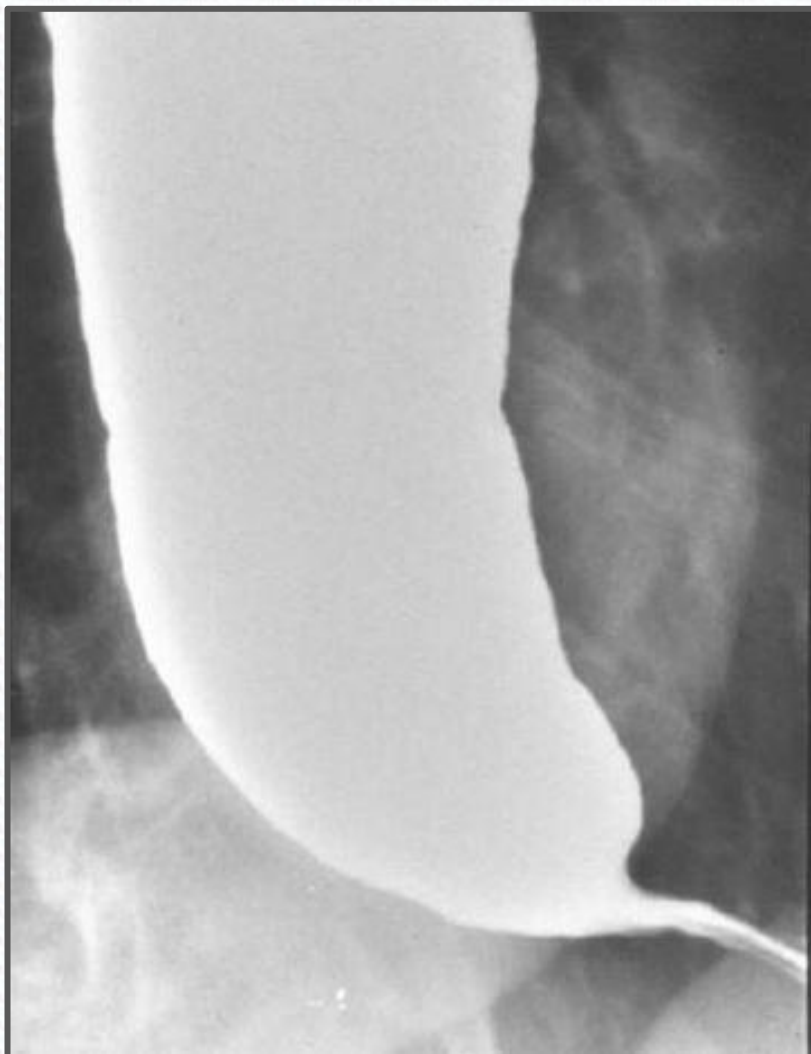
Inability to relax the lower oesophageal sphincter

Presentation

- Dysphagia - solids > liquids
- Regurgitation
- Retrosternal chest pain
- Weight loss

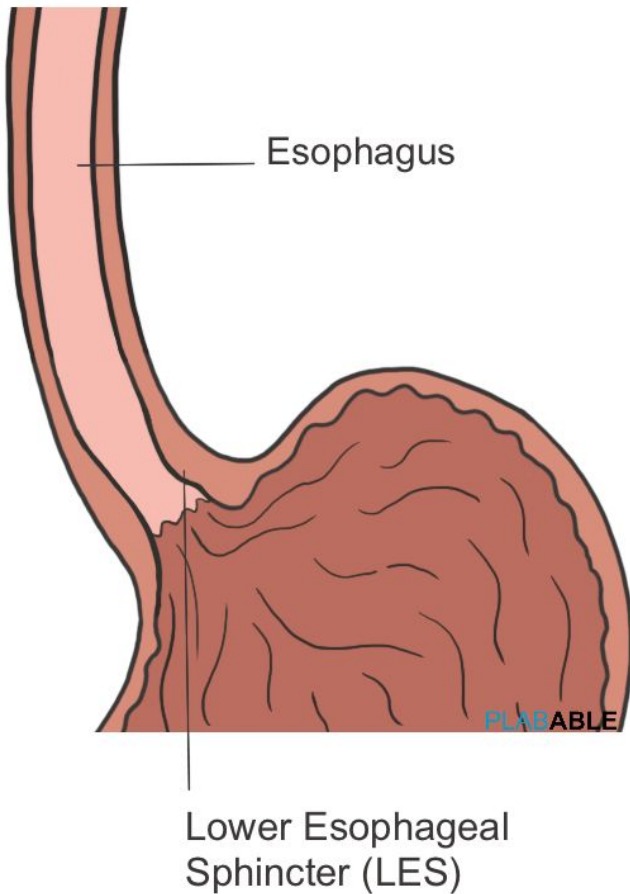
Investigation

- Barium swallow - Bird beak appearance (dilated oesophagus)
- **Manometry** - High resting pressure of LES

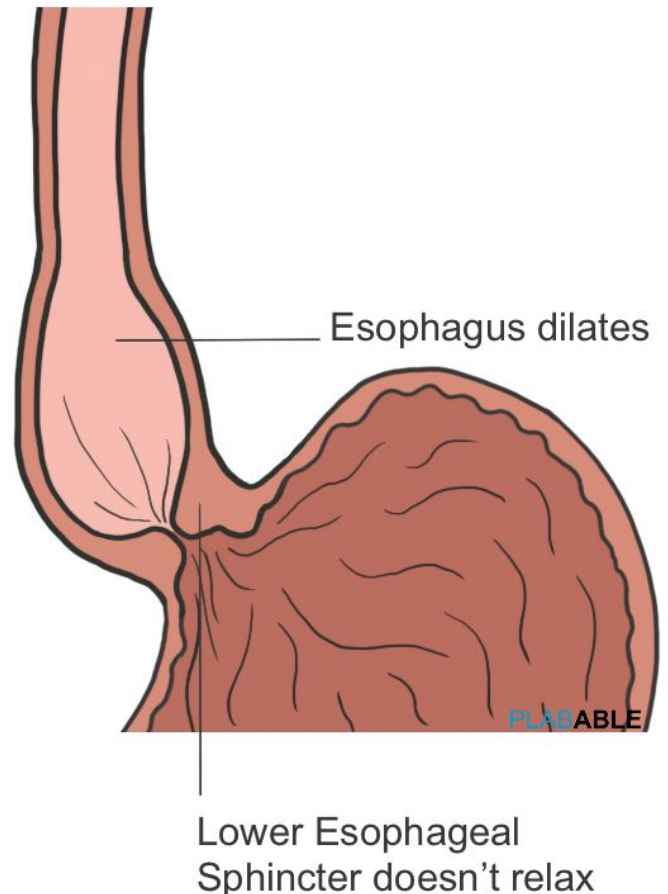


Achalasia Cardia

Normal



Achalasia



Complications

- Aspiration pneumonia
- Oesophageal cancer

Treatment

- Heller myotomy - treatment of choice
- Pneumatic dilation (if patient is unfit for surgery)
- Endoscopic injection of botulinum

Gastro-oesophageal Reflux Disease

Presentation

- Heartburn
- Acid regurgitation
- Chest pain (atypical)
- Dysphagia (late)
- Odynophagia (rare)

Investigations

- Diagnosis is usually clinical
- Endoscopy if red flags (bleeding, weight loss etc)
- 24hr pH (gold standard but rarely used)

Management

- Proton pump inhibitors
- Dietary changes (alcohol, coffee, spices)
- Weight loss + elevation of head in bed

Upper GIT Irritation

Brain trainer:

Which two medications can worsen oesophagitis and gastro-oesophageal reflux disease?

→ **Bisphosphonates and NSAIDs**

Proctalgia Fugax

Brain trainer:

Severe recurrent rectal pain in the absence of any organic disease would suggest what diagnosis?

→ **Proctalgia fugax**

This is a diagnosis of exclusion. Attacks may occur at night, after bowel actions, or following ejaculation. Anxiety is said to be an associated feature.

Barrett's Oesophagus

Squamous to columnar metaplasia of the lower oesophagus and it increases the risk of **adenocarcinoma**

Causes

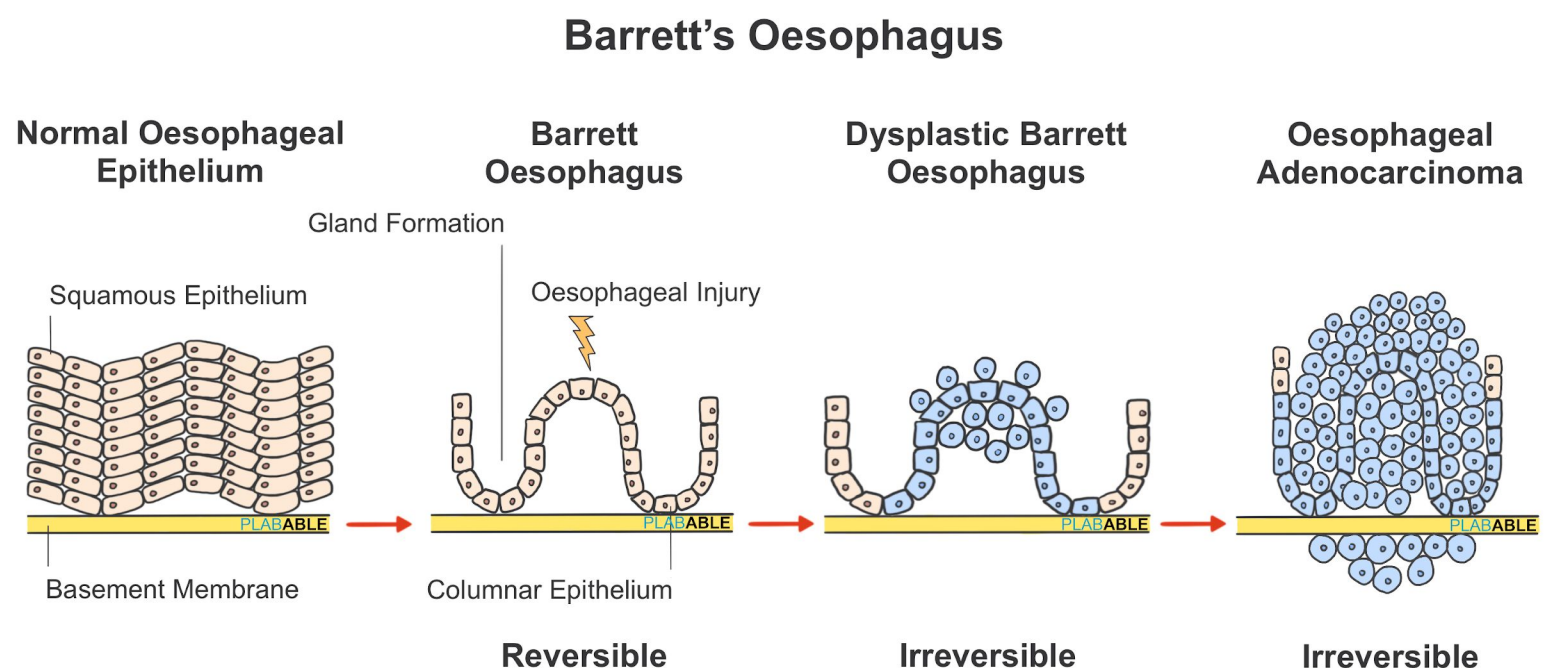
- Chronic GORD
- Hiatus hernia

Risk factors

- Smoking, obesity and alcohol

Treatment

- Most cases respond to PPIs
- If severe dysplasia then oesophagectomy



Diffuse Oesophageal Spasm

Uncoordinated oesophageal contractions

Presentation

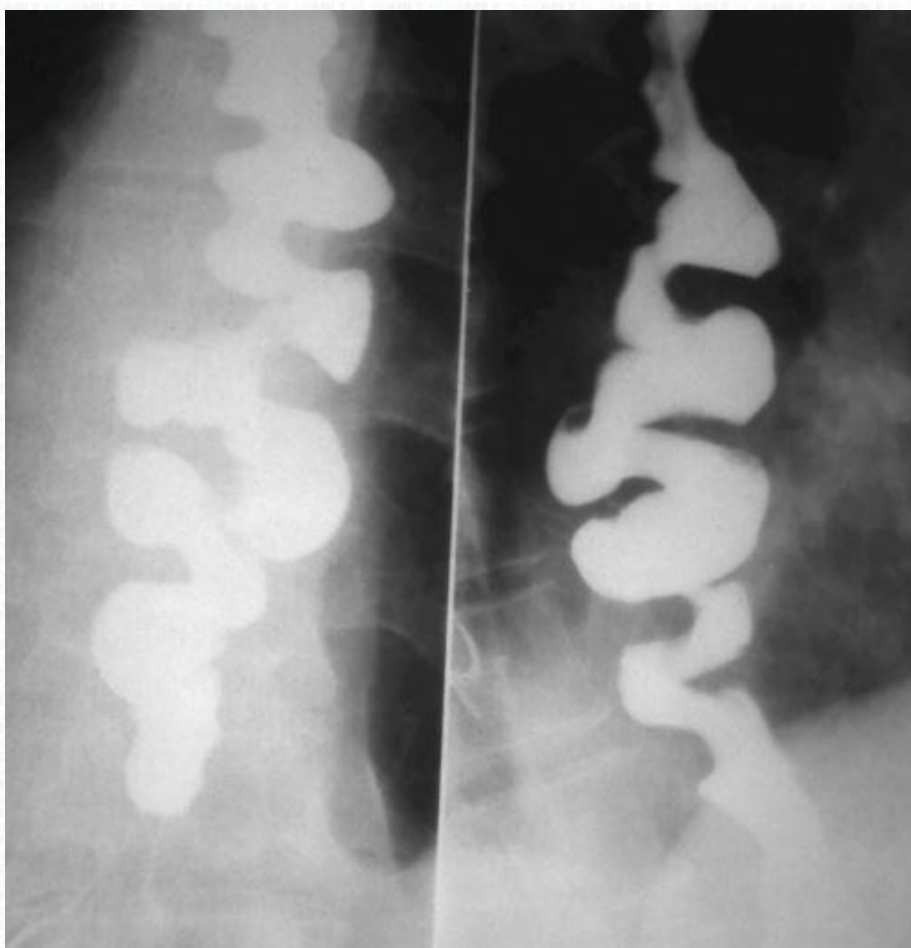
- Intermittent and unpredictable chest pain
- Dysphagia

Investigation

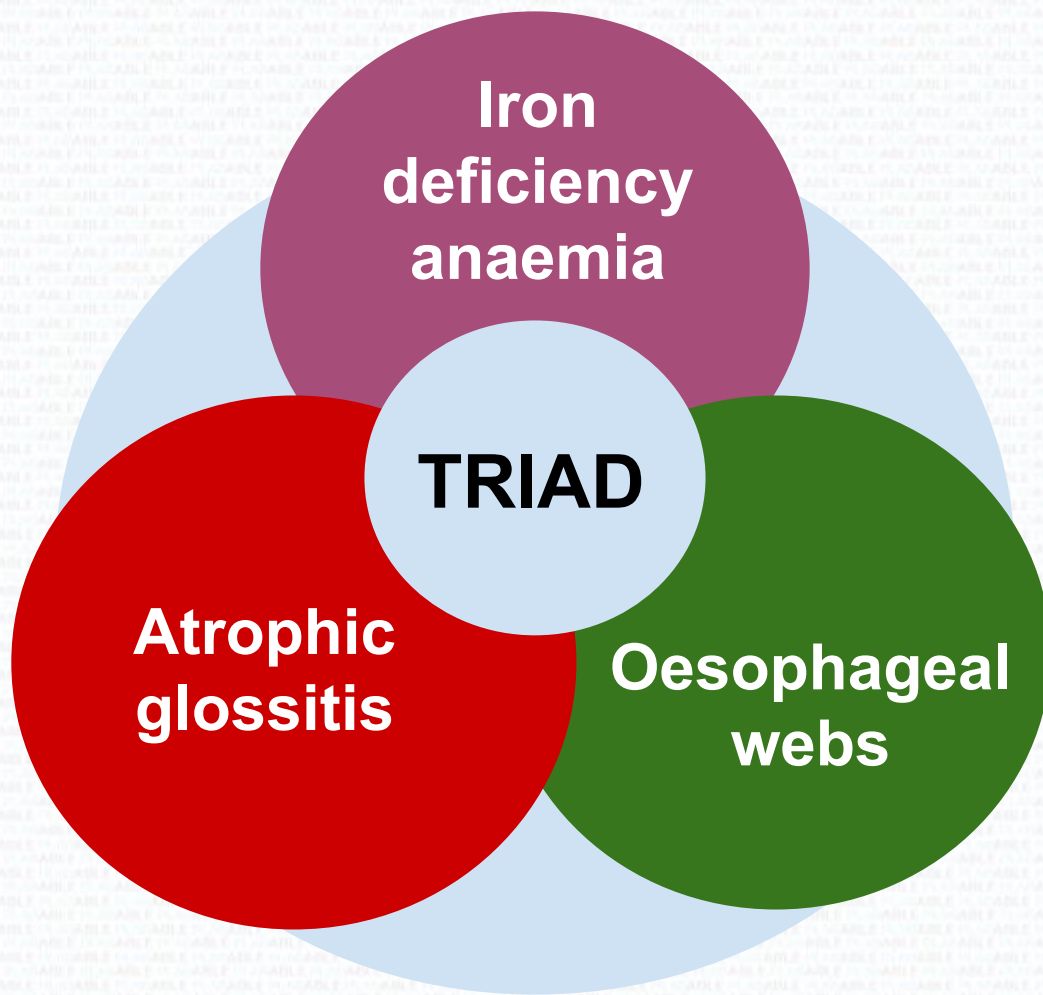
- Oesophageal manometry (preferred)
- Barium swallow - **Corkscrew** pattern

Treatment

- Nitrates
- Calcium channel blockers - nifedipine
- Botulinum toxin injection



Plummer-Vinson Syndrome



Presentation

- Painless intermittent dysphagia
- Solids followed by liquids
- Lethargy, tiredness and pallor

Treatment

- Oral iron replacement
- Endoscopic dilation for persistent dysphagia

Acute Cholecystitis

Presentation

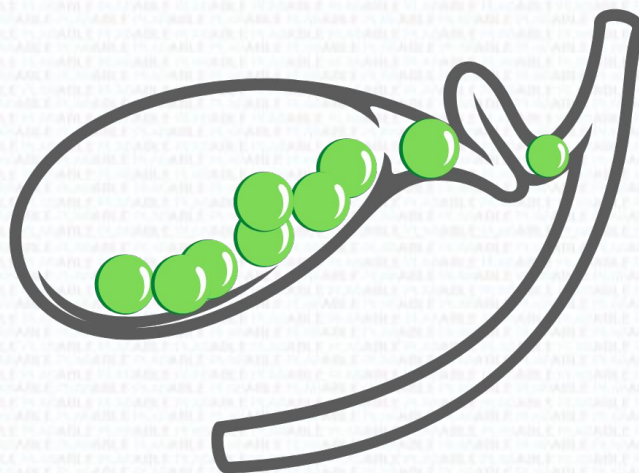
- Acute severe **right upper quadrant pain** or epigastric pain radiating to the right shoulder
- Nausea, vomiting and fever
- **Murphy's sign:** Pain on deep inspiration as the finger touches the inflamed gallbladder
- MC cause: Blockage of cystic duct by gallstone

Investigation

- Ultrasound abdomen

Treatment

- Laproscopic cholecystectomy



Note: Gallstone in asymptomatic patient - offer reassurance

Zenker's Diverticulum

Pharyngeal pouch is a herniation in the inferior constrictor of the pharynx

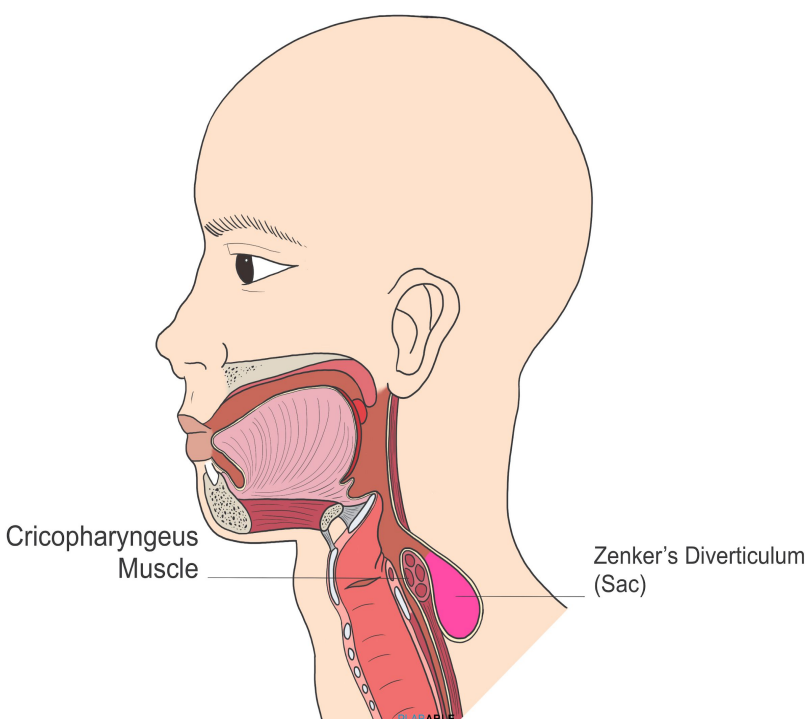
Presentation

- Dysphagia
- Regurgitation
- Halitosis
- Aspiration and chronic cough

Investigation

- Barium swallow - pool of contrast in the pouch

Zenker's Diverticulum



Treatment

- Surgery - **diverticulectomy**

Dysphagia

Oesophageal cancer	<ul style="list-style-type: none">● Solids > liquids● Weight loss● H/o smoking and alcoholism● Smoking → SCC● Barrett's → Adenocarcinoma● Stenting if inoperable
Achalasia cardia	<ul style="list-style-type: none">● Solids > liquids● Regurgitation of food● Bird beak appearance (barium swallow)● High resting pressure of LES (manometry)
Diffuse oesophageal spasm	<ul style="list-style-type: none">● Liquids > solids● Intermittent abnormal peristalsis (manometry)● Corkscrew pattern (barium swallow)
Zenker's diverticulum	<ul style="list-style-type: none">● Regurgitation of food● Halitosis● Pouch seen on barium swallow

Crohn's vs Ulcerative Colitis

Crohn's disease	Ulcerative colitis
Skip lesions, anywhere in the GIT	Continuous lesions, only affecting the colon
Non-bloody diarrhoea	Bloody diarrhoea
Histology: Transmural ulcers and granuloma	Histology: Crypt abscess
Complications <ul style="list-style-type: none">● Fistulas● Stricture● Colorectal cancer● Osteoporosis	Complications <ul style="list-style-type: none">● Colorectal cancer● Toxic megacolon● Osteoporosis
Endoscopy: Cobblestone mucosa	Barium enema: Loss of haustral markings and drain pipe appearance
Treatment: <ul style="list-style-type: none">● Glucocorticoid● Azathioprine or mercaptopurine● Infliximab and adalimumab	Treatment: <ul style="list-style-type: none">● Mesalazine● Corticosteroids● Ciclosporin

Zollinger-Ellison Syndrome

Gastrinoma → excess gastrin → multiple and refractory peptic ulcers in the distal duodenum and proximal jejunum

Presentation

- Epigastric pain
- Gastrointestinal bleeding due to erosion
- Chronic diarrhea
- Associated with **MEN1**

Investigation

- Fasting serum gastrin
- Endoscopy to look for ulcers
- CT scan to locate tumour

Treatment

- Surgical resection of the tumour
- PPIs

Hereditary Haemochromatosis

Autosomal recessive disorder causing increased absorption of iron resulting in iron overload

Presentation

- Arthropathy
- **Bronze skin**
- **Hepatomegaly → cirrhosis → HCC**
- **Cardiac** - Arrhythmias or cardiomyopathy
- **Neurological:**
 - Impaired memory
 - Depression
- **Endocrine:**
 - Diabetes mellitus
 - Impotence
 - Amenorrhea

Investigations

- ↑ Transferrin saturation
- ↑ Serum ferritin
- Genetic testing (HFE gene)

Treatment

- Phlebotomy
- Liver transplantation (cirrhosis)

Autoimmune Hepatitis

Presentation

- Fatigue
- Pruritus
- Jaundice
- Amenorrhoea
- Associated with other autoimmune disorders especially of thyroid

Investigations

- Anti-smooth muscle antibody
- LFT
- Liver biopsy

Treatment

- Prednisolone + azathioprine

Drug Induced Hepatitis

Brain trainer:

A 65 year old alcoholic woman with severe pneumonia is treated IV co-amoxiclav. She now has elevated bilirubin, and massive elevations of ALP and AST. What is the diagnosis?

➔ **Drug-induced hepatitis**

Villous Adenoma

Brain trainer:

A patient with a 2 week history of watery mucinous diarrhea after endoscopy is diagnosed with villous adenoma. What metabolic disturbances would you expect?

➔ Hypokalemia, hypoproteinemia

The mucous which a villous adenoma secretes is rich in protein and potassium.

Primary Biliary Cirrhosis

3M



- Anti-Mitochondrial antibodies
- Middle-aged Female
- IgM

Presentation:

- Pruritus - Skin excoriations
- Jaundice
- ↑ Alkaline phosphatase
- Associated with **Sjogren's syndrome**

Primary Sclerosing Cholangitis

Presentation:

- Pruritus - Skin excoriations
- Jaundice
- ↑ Alkaline phosphatase
- Associated with **Ulcerative colitis**

Treatment in both conditions

- Ursodeoxycholic acid
- Cholestyramine

Gilbert's Syndrome

Autosomal recessive disorder due to ↓ UGT enzyme causing unconjugated hyperbilirubinemia

Features

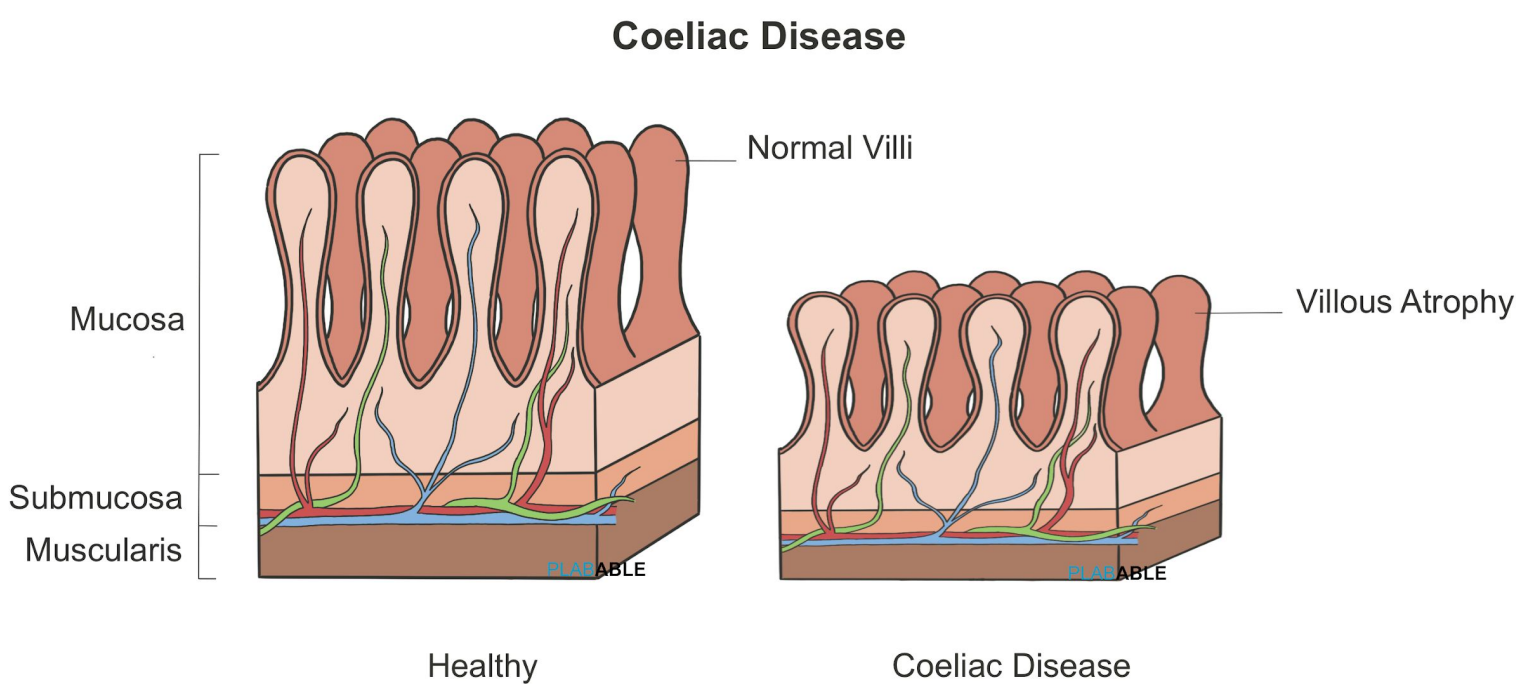
- Jaundice with stressors:
 - Infection
 - Surgery
 - Dehydration
 - Fasting
- Mild ↑ unconjugated bilirubin
- Normal reticulocyte and LFT
- Symptomatic management

Coeliac Disease

Malabsorption syndrome due to inflammatory response to gluten present in wheat, rye and barley

Presentation

- Chronic or intermittent diarrhoea
- Fatty stools - Steatorrhoea
- Abdominal distension and nausea
- Chronic fatigue and weight loss
- Malabsorption of vitamins and minerals - Most commonly Vit B12, iron and folate
- Skin manifestation - **Dermatitis herpetiformis** (commonly seen on extensor aspects)



Coeliac Disease

Investigation

- Tissue transglutaminase antibody - tTG (IgA)
- Anti-endomysial antibody (IgA)
- Duodenal or jejunal biopsy (confirmatory)
 - Villous atrophy
 - Crypt hyperplasia
 - Increased intraepithelial lymphocytes

Management

- Gluten free diet



Note

- For the tests to be accurate the patient should still be having gluten in diet
- If patient already on gluten free diet, gluten should be reintroduced for at least 6 weeks before testing

Ascending Cholangitis

Charcot's triad

- Fever
- Right upper quadrant pain
- Jaundice

Along with hypotension and mental confusion called as **Reynolds' pentad**

Causes

- Gallstones causing obstruction
- Post ERCP
- Bile duct stricture
- Tumours such as pancreatic cancer

Investigation

- Contrast-enhanced CT (best method)
- Ultrasound abdomen
- Blood culture

Treatment

- Fluid resuscitation
- Broad spectrum IV antibiotics
- Endoscopic biliary drainage

Gastroenteritis

Watery diarrhoea:

- **Traveller's diarrhoea** - watery diarrhoea caused by *E.coli*
- **Rotavirus** - watery diarrhoea in children
- **Giardiasis** - watery diarrhoea, malabsorption, abdominal pain, bloating, weight loss

Rx: Metronidazole

- **Staphylococcus**: diarrhoea immediately after a meal - preformed toxin
- **Cryptosporidiosis** - watery diarrhoea in HIV and other immunocompromised patients

Rx: Nitazoxanide and HAART

Bloody diarrhoea:

- **Campylobacter** - Guillain-Barre syndrome
- **Shigella** - Haemolytic uraemic syndrome
- **Salmonella** - Poultry
- **Amoebiasis**

Pseudomembranous colitis (*Clostridium difficile*)

Diarrhoea after antibiotic (clindamycin or amoxicillin)

Rx: Oral Metronidazole or Vancomycin

Abdominal Migraine

Brain trainer:

A child presenting with recurrent abdominal pain with episodic headaches but no abnormal finding on examination and investigation. What is the most likely diagnosis and how is this condition managed?

- ➔ Abdominal migraine
- ➔ Reassurance

Liver Cirrhosis With Ascites

Brain trainer:

What is the management for a patient with liver cirrhosis with ascites \pm fever?

→ Cirrhosis → spironolactone

If fever present:

→ Investigation → ascitic fluid aspirate analysis

→ If high neutrophils in aspirate → IV antibiotics

Pernicious Anaemia

Autoimmune atrophic gastritis causing B12 deficiency

Features

- Megaloblastic anaemia
- Paraesthesia
- Numbness
- Subacute combined degeneration (severe B12 deficiency)
- Associated with other autoimmune diseases such as Hashimoto's disease, type 1 DM, vitiligo and hypoadrenalism

Investigation

- **Intrinsic factor antibody** (high specificity)
- **Schilling test** (to measure B12 absorption)

Treatment

- Hydroxocobalamin (IM)

B12 Deficiency

Brain trainer:

What is the most common cause of vitamin B12 deficiency in the United Kingdom ?

→ **Pernicious anaemia**

Lack of intrinsic factor secretion in the stomach results in poor absorption of B12 in the ileum.

Other causes of B12 deficiency:

- Veganism
- Total gastrectomy (lack of intrinsic factor)
- Ileal resection
- Crohn's disease
- Chronic pancreatitis
- Coeliac disease

Decompensated Liver Disease

Causes

- Chronic alcoholism
- NAFLD and NASH
- Chronic hepatitis B and C
- Haemochromatosis
- Wilson's disease
- Alpha-1-antitrypsin deficiency

Presentation

- Jaundice
- Confusion
- Haematemesis
- Distended abdomen - Ascites
- Flapping tremor
- Palmar erythema
- Caput Medusae

Wilson's Disease

Brain trainer:

A child with elevated liver enzymes and slow deterioration in school performance. On examination there is hepatosplenomegaly, intention tremor, dysarthria, and dystonia. What is the diagnosis?

➔ **Wilson's disease**

Decompensated Liver Disease

Investigations

- ↑↑ AST and ALT
- GGT ↑↑ in alcoholics
- ↓ Albumin
- ↑ PT/INR
- **Transient elastography (fibroscan)**

Complications

- Variceal bleeding
- Spontaneous bacterial peritonitis
- Hepatic encephalopathy

Management of hematemesis

- ABC with replacement of blood / fluids
- Terlipressin
- Endoscopic band ligation or sclerotherapy

Colorectal Carcinoma

Presentation

- Weight loss
- Rectal bleeding
- Anaemia
- Old age
- Bowel obstruction

Risk factors

- Familial adenomatous polyposis
- Diet rich in meat and poor in fibre
- Smoking
- Inflammatory bowel disease

Investigation

- Colonoscopy and biopsy (**gold standard**)
- CT scan
- Barium enema

Management - Surgery or palliative care

Screening

Every 2 years to all aged 60 to 74

Image Attributions

https://commons.wikimedia.org/wiki/File:Cullen%27s_sign.jpg

Herbert L. Fred, MD and Hendrik A. van Dijk CC BY 2.0

<https://en.wikipedia.org/wiki/File:Acha.JPG>

Farnoosh Farrokhi, Michael F. Vaezi. CC BY 2.0

<https://commons.wikimedia.org/wiki/File:Killian-Jamieson-Divertikel.jpg>

Hellerhoff CC BY-SA 3.0

https://commons.wikimedia.org/wiki/File:Radiology_0012_Nevit.jpg

Nevit Dilmen CC BY-SA 3.0

https://en.m.wikipedia.org/wiki/File:Chronische_Pankreatitis_mit_Verkalkungen_-_CT_axial.jpg

Hellerhoff CC BY-SA 3.0