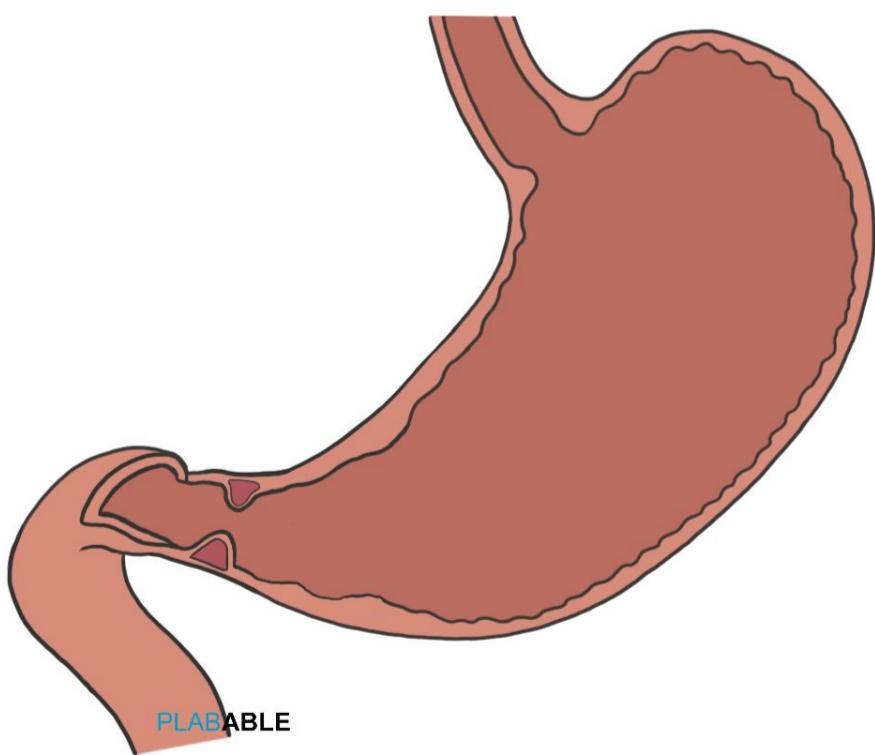


# PLABABLE

# 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 periampullary tumour
- **A**lcohol
- **D**rugs - Thiazides, steroids, valproate, etc.
- **H**ypertriglyceride / Hypercalcemia
- **I**idiopathic
- **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

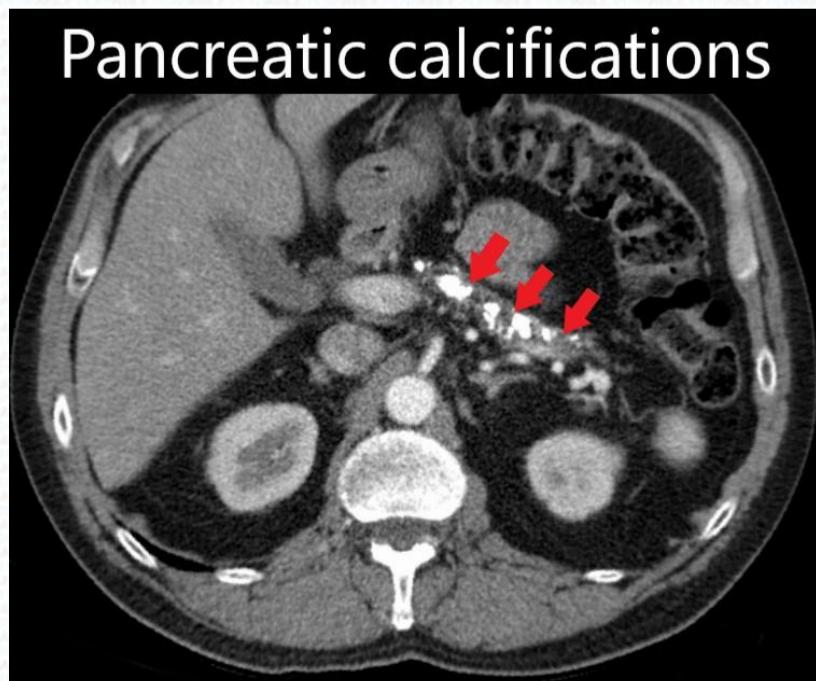
- Episodic epigastric pain radiating to the back
- Steatorrhea → malabsorption → weight loss
- Diabetes mellitus
- Serum amylase not as high as seen in acute pancreatitis

## 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

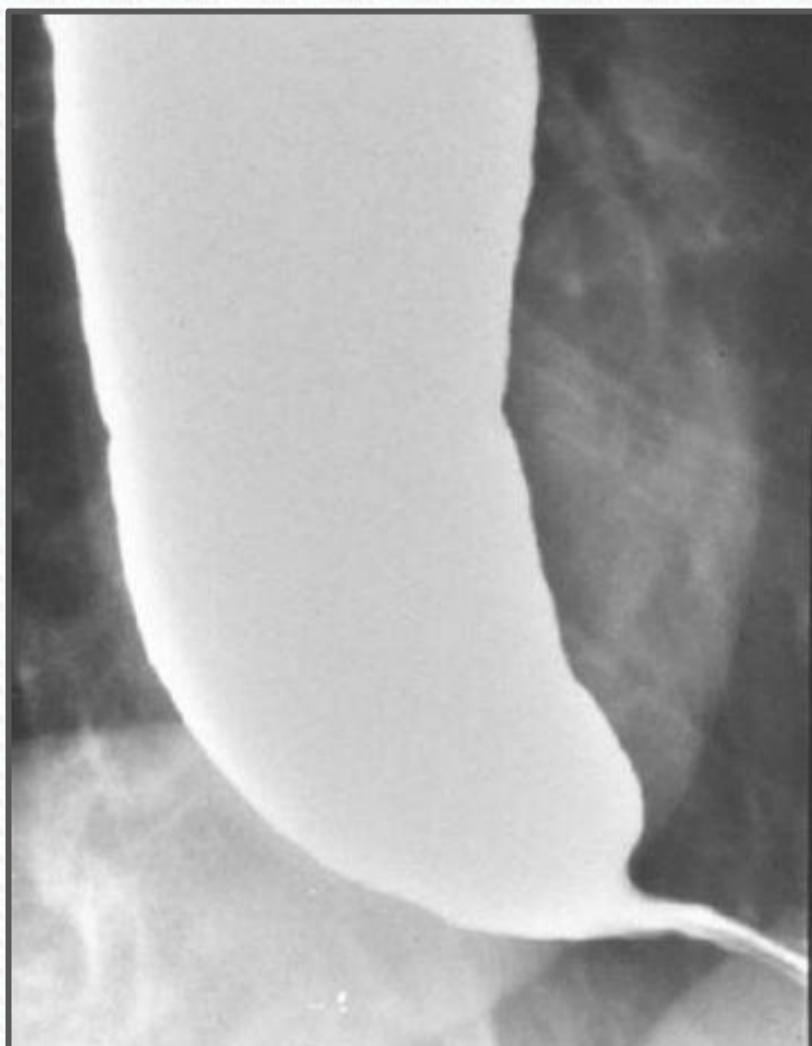
Inability to relax the lower oesophageal sphincter

## Presentation

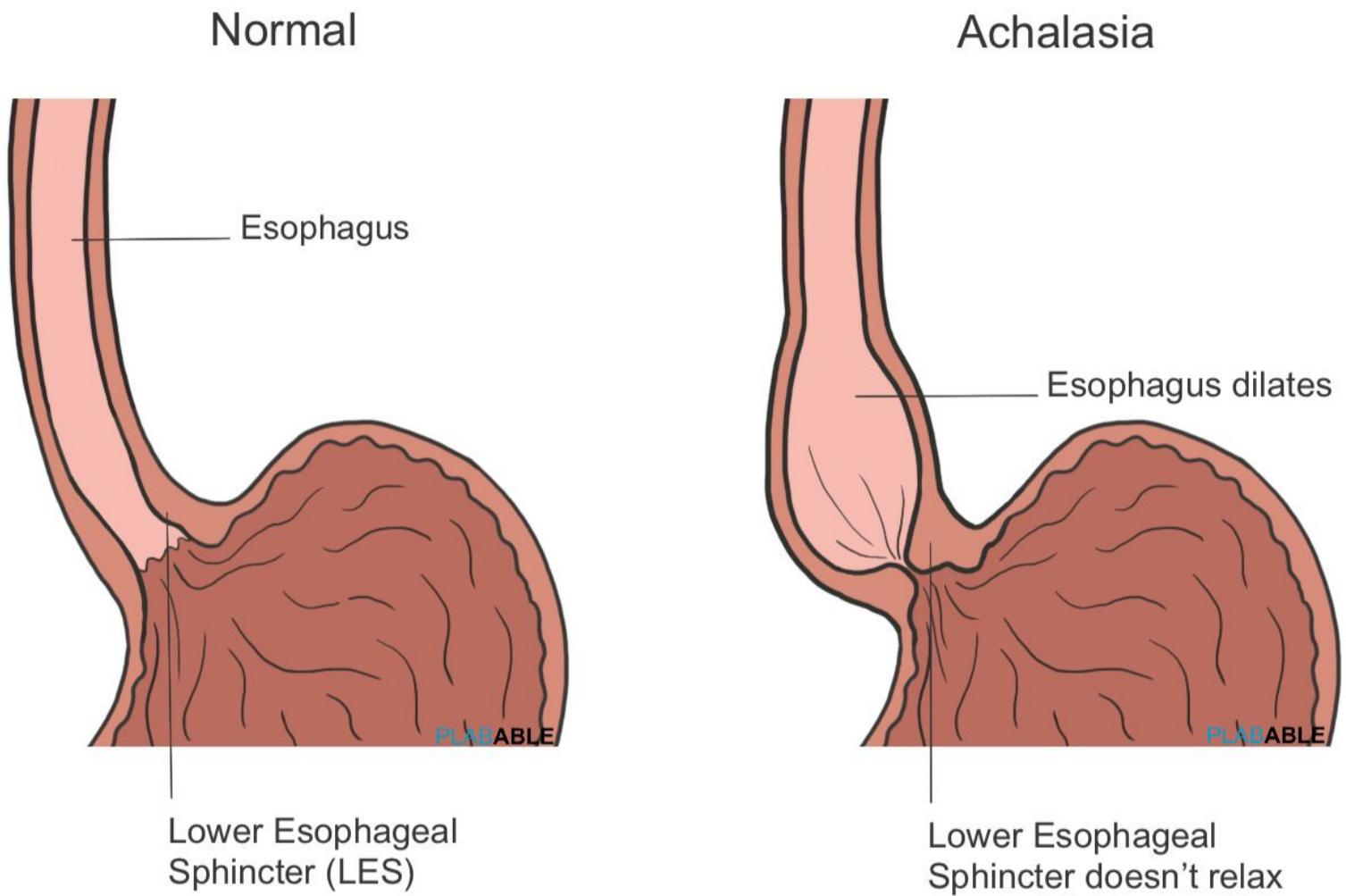
- Dysphagia - solids > liquids
- Regurgitation
- Retrosternal chest pain
- Weight loss

## Investigation

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



# Achalasia Cardia



## 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

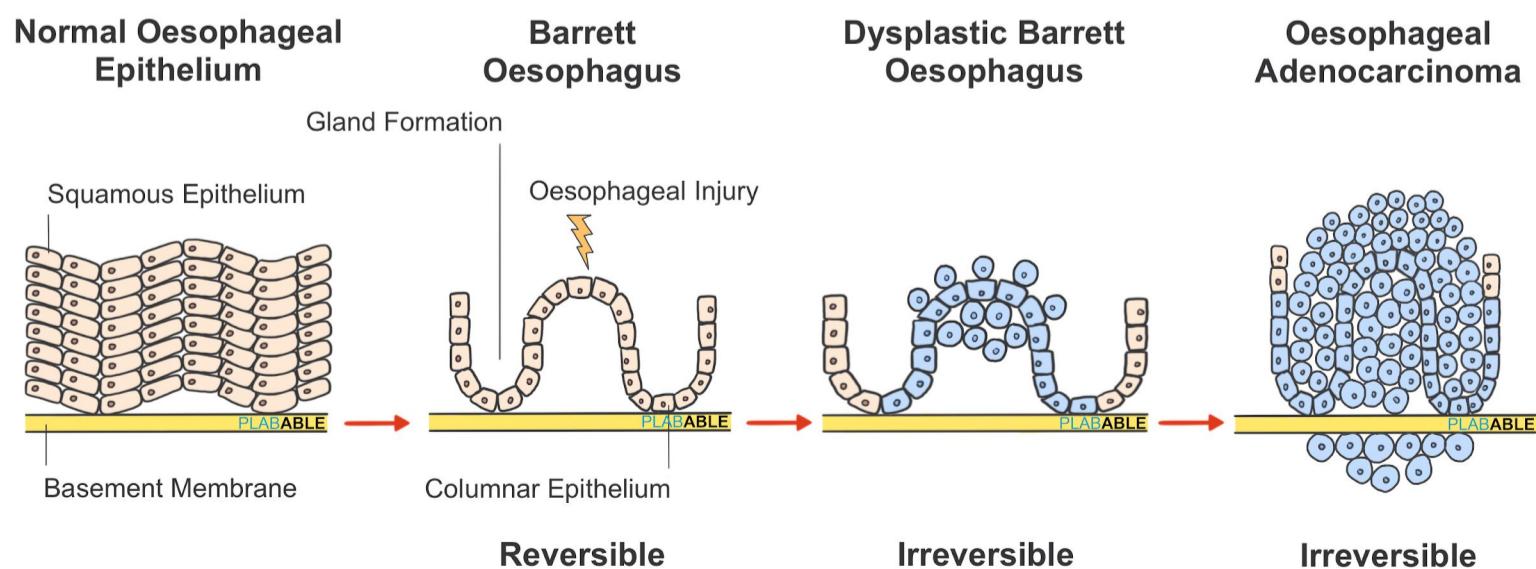
## Risk factors

- Smoking, obesity and alcohol

## Treatment

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

### Barrett's Oesophagus



# Diffuse Oesophageal Spasm

Uncoordinated oesophageal contractions

## Presentation

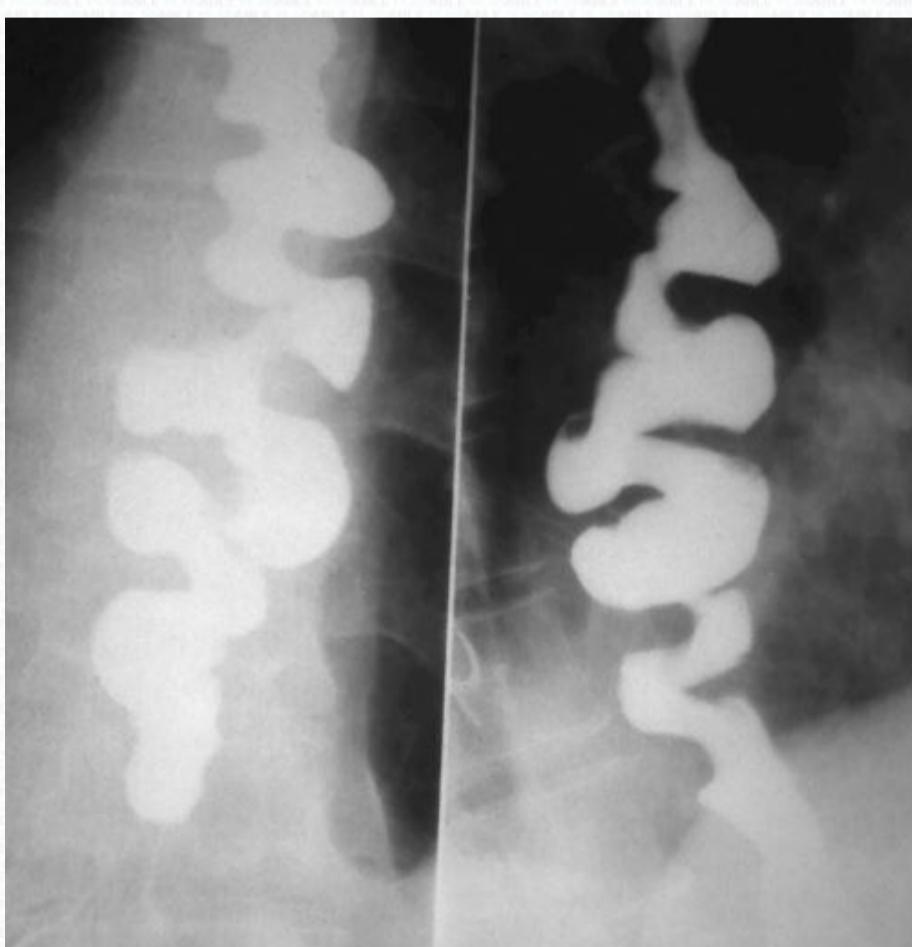
- Intermittent and unpredictable chest pain
- Dysphagia

## Investigation

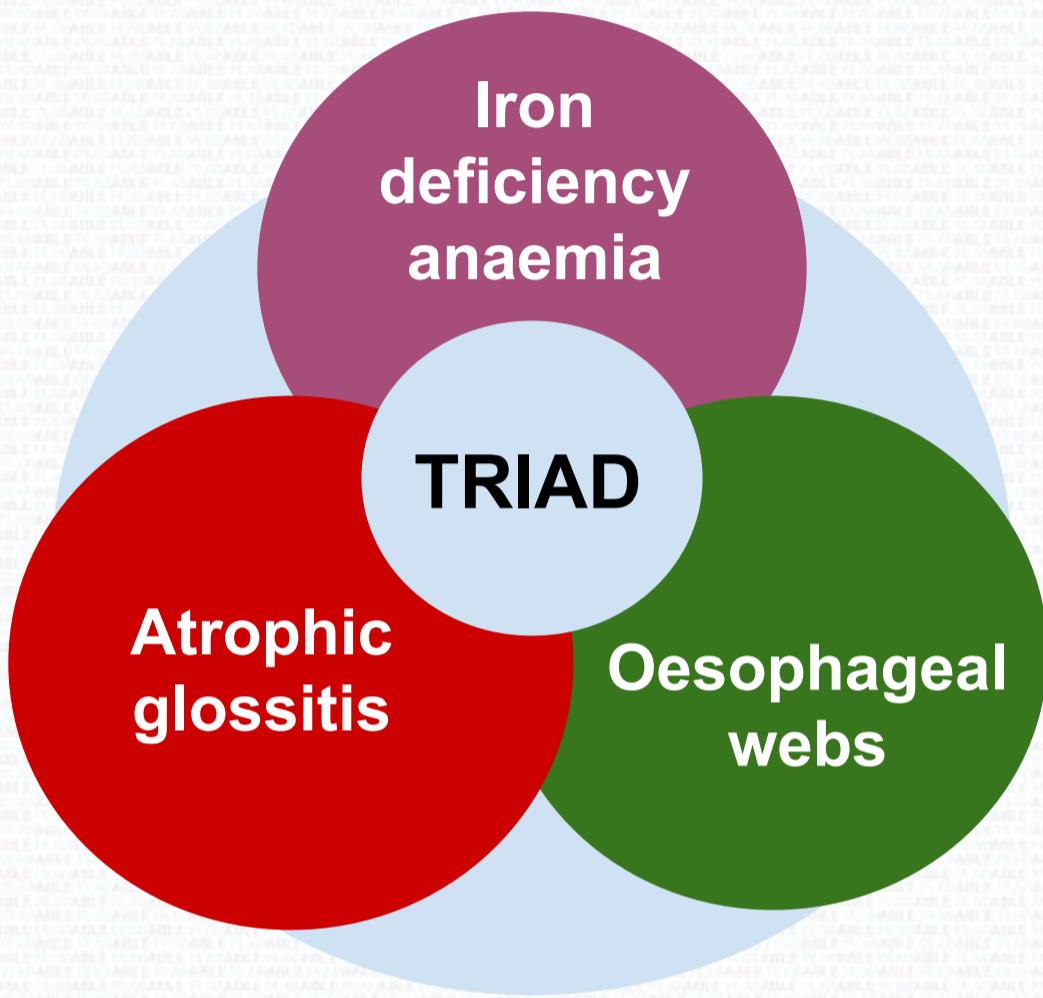
- Oesophageal manometry (preferred)
- Barium swallow - **Corkscrew** pattern

## 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

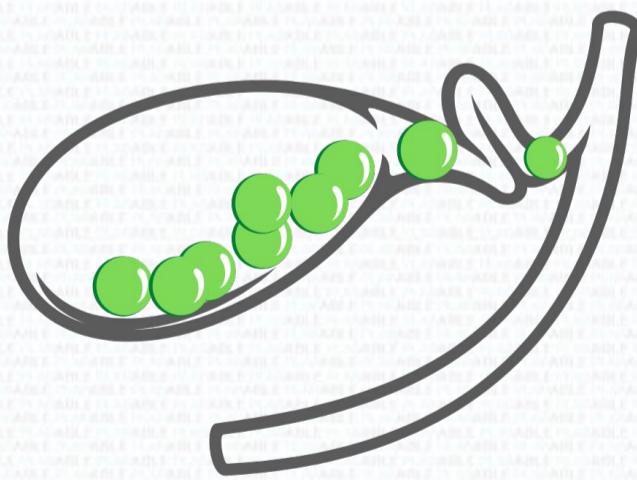
- Acute severe **right upper quadrant pain** or epigastric pain radiating to the right shoulder
- Nausea, vomiting and fever
- **Murphy's sign:** Pain on deep inspiration as the finger touches the inflamed gallbladder
- MC cause: Blockage of cystic duct by gallstone

## Investigation

- Ultrasound abdomen

## Treatment

- Laproscopic cholecystectomy



**Note:** Gallstone in asymptomatic patient - offer reassurance

# Zenker's Diverticulum

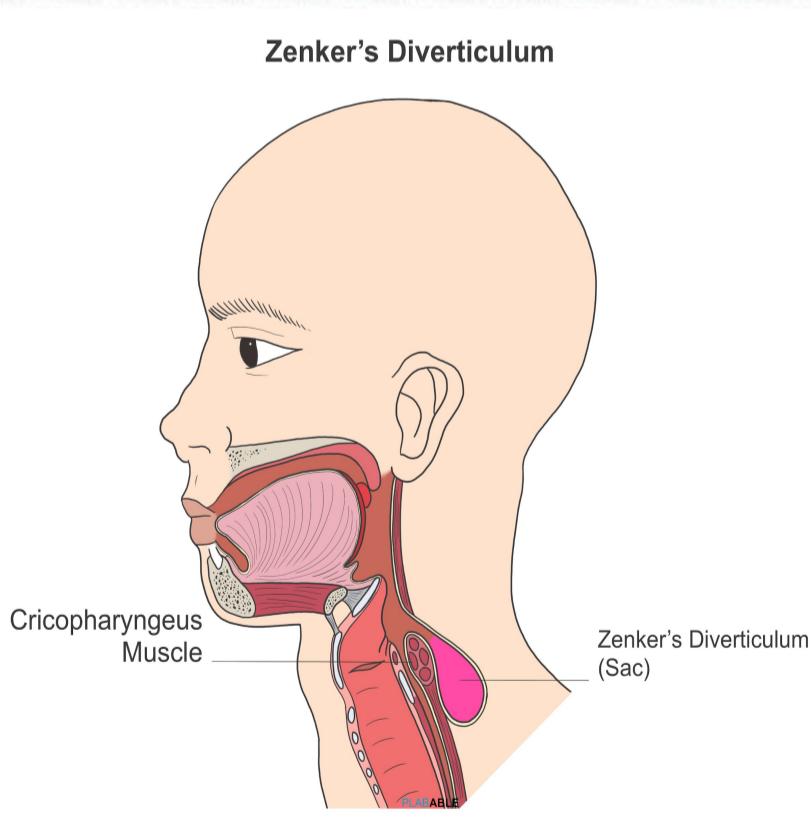
**Pharyngeal pouch** is a herniation in the inferior constrictor of the pharynx

## Presentation

- Dysphagia
- Regurgitation
- Halitosis
- Aspiration and chronic cough

## Investigation

- Barium swallow - pool of contrast in the pouch



## Treatment

- Surgery - **diverticulectomy**

# Dysphagia

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

# Crohn's vs Ulcerative Colitis

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

# 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

- $\uparrow$  Transferrin saturation
- $\uparrow$  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

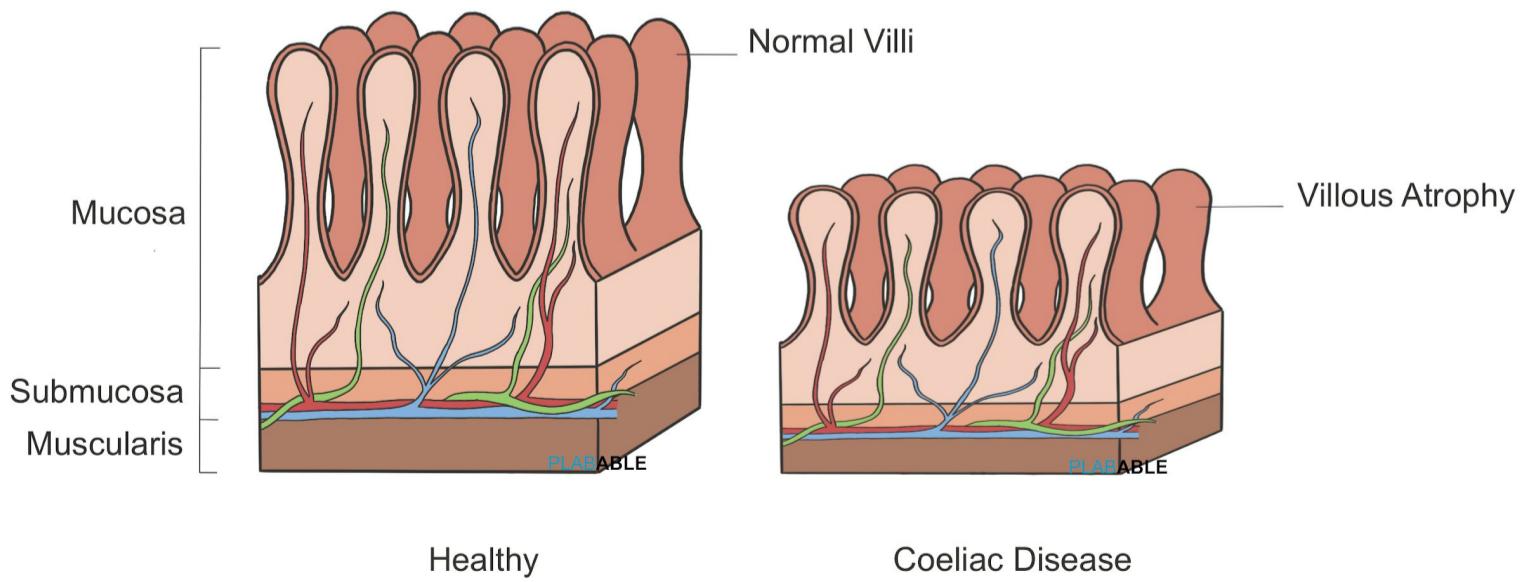
# Coeliac Disease

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



# 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 hypoadrenalinism

## 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

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