Cases in Gastroenterology and Liver disease

20-1-2016 Revision Course

Aruna Dias
Consultant Gastroenterologist
Newham University Hospital

Introduction

- Discuss a few common but important case scenarios
- How to approach problem and formulate plan

SIMPLY GASTRO

How to approach the clinical problem…

- Read the question **VERY CAREFULLY**
- Form a differential diagnosis (DD)
- Your first DD should be the worst *likely* case
- Try to think of at least 3 possible cases
- Aim to eliminate each DD from the information given

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Importance of patient history

The purpose of the history is for:

1) To establish a diagnosis
2) To assess severity
3) To plan management
4) (For MCQs) To help you exclude other conditions

What to look for in the examination

- Every mentioned examination finding is important
- If something is not mentioned then assume it is normal/not relevant
- **NEVER** ignore basic observations such as pulse, blood pressure, respiratory rate, temperature or the patient's general appearance
- With GI/liver problems the most important information is usually in the abdomen: soft vs guarding, tender vs non-tender, organomegaly, bowel sounds present or not, distended or not…

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Investigations I

- Like the history, investigations (Ix) help to diagnose, assess severity and plan management (Rx)
- **ALWAYS** think of doing tests that you would do in A&E
- Basic blood tests (at your level) will save your's and the patient's lives: FBC, U&E, LFTs, Glucose, INR, Group & Save/Cross match, Amylase
- Don't forget these important (non-blood) tests: 1) chest x-ray (CXR) 2) ECG 3) urine dipstick
- Arterial blood gases are very useful if you have a sick patient

Investigations II

- In emergency situations go for the basic tests first – this shows that you are safe
- In emergency situations ultrasound, CT, MRI and endoscopy are **NEVER** first line investigations
- If you have to pick one test then decide what will kill the patient if you did not do it…

SIMPLY GASTRO

Universal management

- If given the option then ABC is **ALWAYS** the first step
- Then DEFG*…
- *Primum non nocere* should be your guiding principle…
- Resuscitate and do so in a safe place: resus, ITU, etc…
- Stabilise patient before doing anything invasive like endoscopy or surgery
- Decide what needs to be done now and what can wait till later.

- DEFG = don't ever forget glucose

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Case 1

- 68 Female admitted with 1x episode of haematemesis.

- What 5 questions do you want to ask?
- What are you going to look for on examination?

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Causes of upper GI bleeding

- Peptic ulcer disease — 45-55%
- Oesophagogastric varices — 15-20%
- Arteriovenous malformations — 5-10%
- Mallory-Weiss tears — 5-10%
- Tumors — 5-10%
- Dieulafoy's lesion — 1-3%
- Other — 10-15%

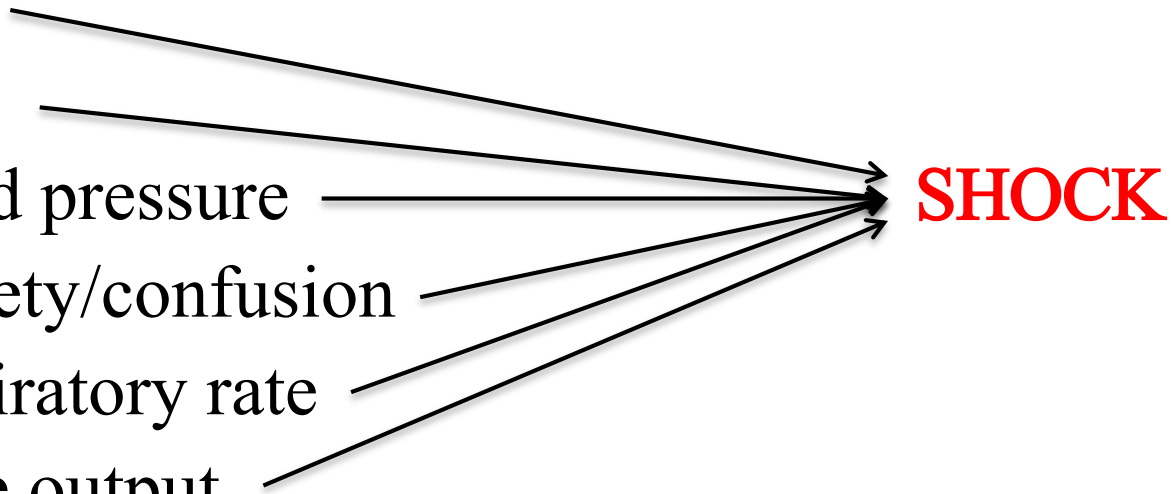
What questions to ask:

5 Questions regarding aetiology:

- Alcohol?
- NSAIDs?
- Bleeding disorders/anticoagulants?
- PMH of peptic ulcer disease?
- PMH of liver disease?

What to look for on examination:

- Skin
- Pulse
- Blood pressure
- Anxiety/confusion
- Respiratory rate
- Urine output
- Signs of liver disease
- Melaena on PR examination?



SIMPLY GASTRO

Case 1

- 68F admitted with 1x episode of haematemesis. PMH of rheumatoid arthritis on diclofenac. No hx of alcohol. No other medications or PMH.
- O/E not in pain but appears pale. Pulse 100, BP 120/80, RR 18, Apyrexial
- Abdominal examination normal. Melaena on PR.

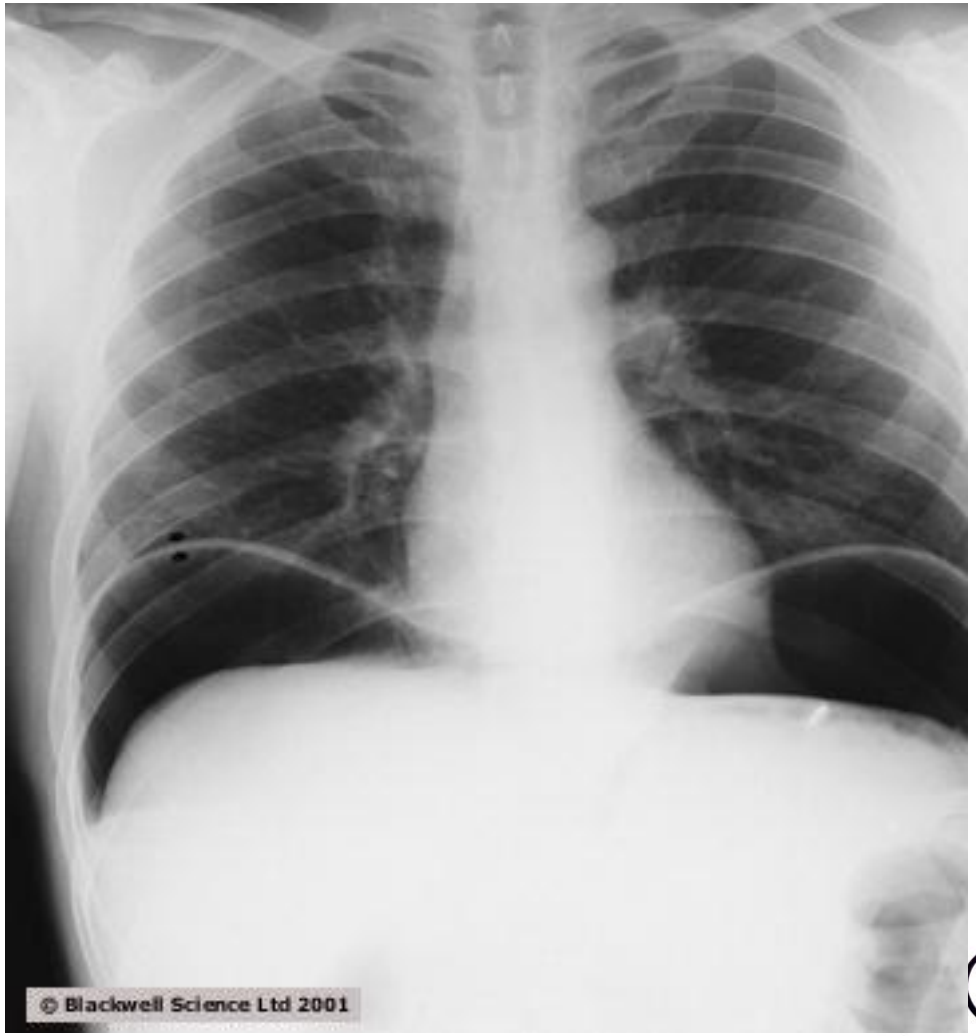
- List 5 immediate investigations
- What is your immediate management?

SIMPLY GASTRO

Investigations

- Blood tests: FBC, U&E, LFTs, Glucose, Amylase, Clotting, G&S/X-match
- CXR
- ECG
- Arterial Blood Gases (ABG)
- Urinary catheter

Why a CXR is important…



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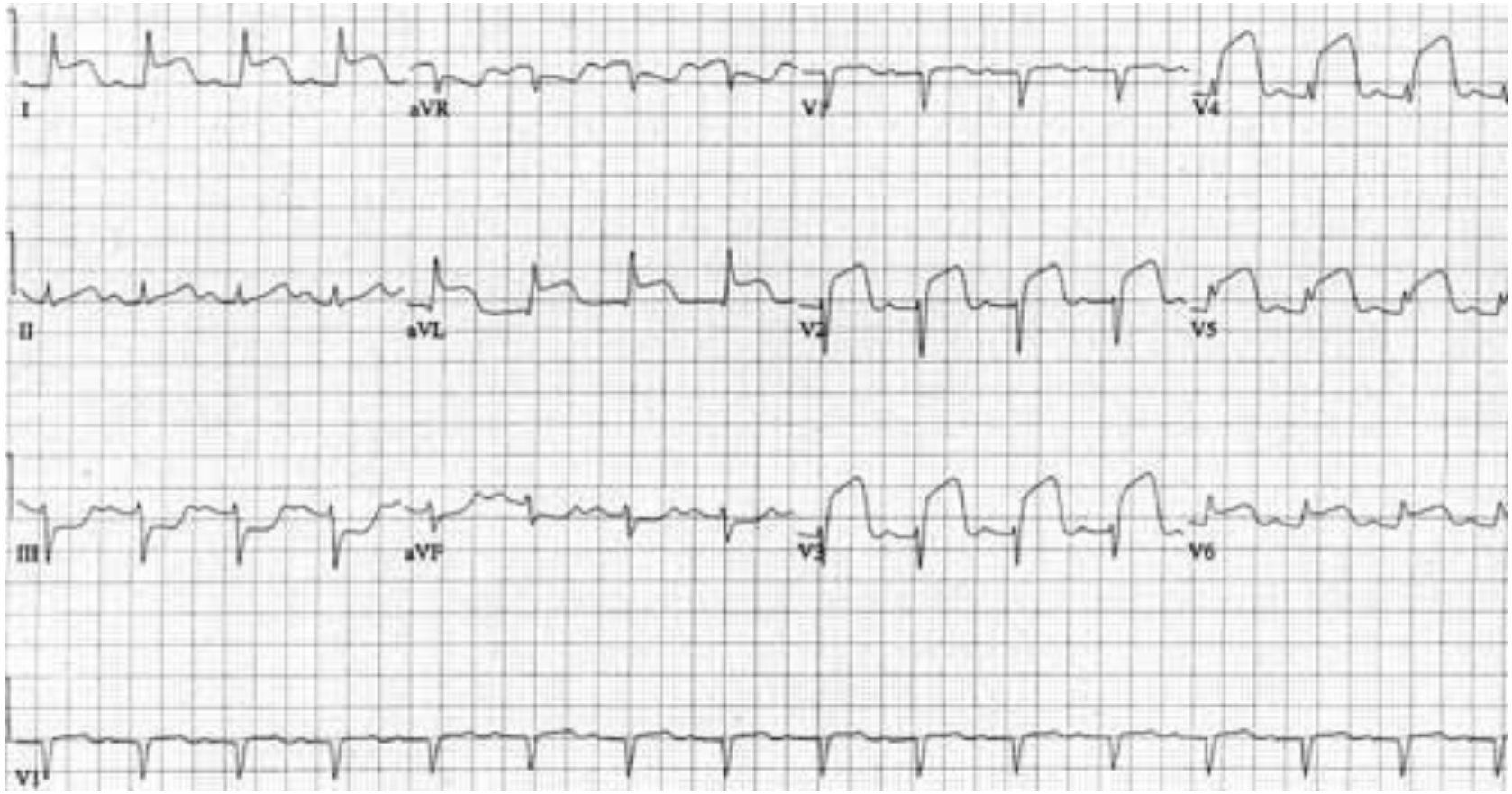
Why an ECG is important…



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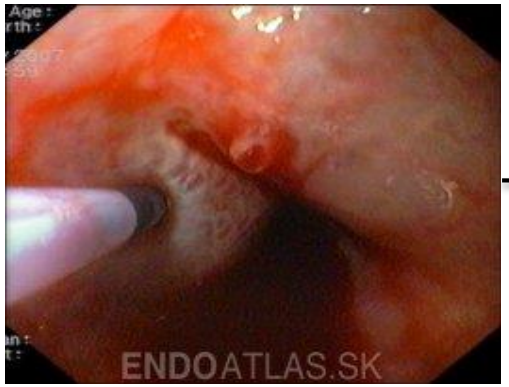
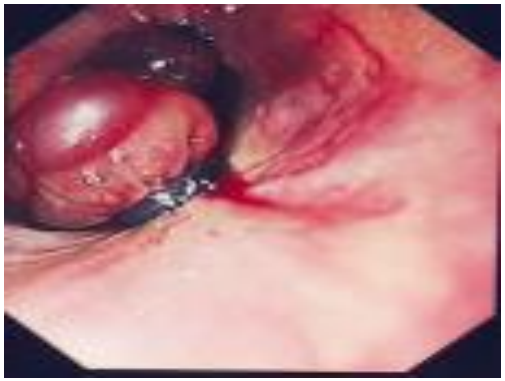
Immediate management

- ABC
- IV access
- IV fluids + keep nil by mouth (NBM)
- Transfuse if necessary: packed cells +/- platelets +/- FFP
- PPI
- Endoscopy **ONLY** once stabilised
- If suspect variceal bleed then give (broad spectrum) antibiotics +/- terlipressin

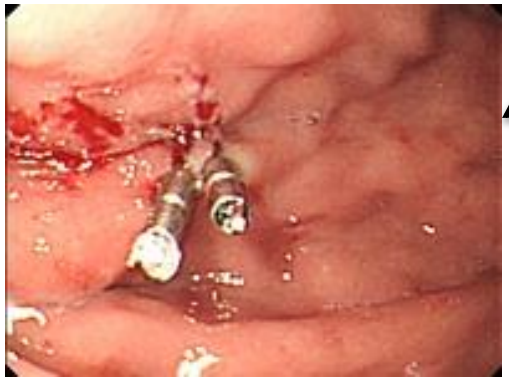
Endoscopic treatment



Adrenaline injection

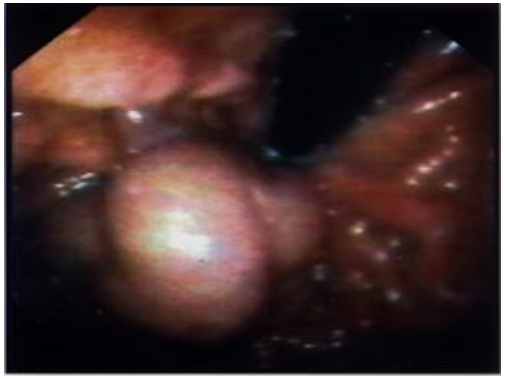


Banding of oesophageal varices

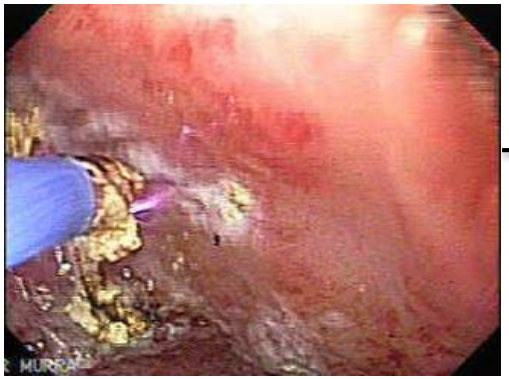


Endoclips

Ulcer bleeds



Glue for gastric varices



Argon plasma coagulation

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Case 2

- 32M is admitted to A&E with bloody diarrhoea

- What questions do you want to ask?
- What are you looking for on examination?

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Causes of diarrhoea

- **Infective**
  - Bacterial
  - Viral
  - Protozoal
- **Inflammatory Bowel Disease**
  - Crohn's
  - Ulcerative Colitis
- Malignancy
- Drugs
- Hyperthyroidism
- Ischaemic
- Radiation Colitis
- Malabsorptive States
- Bacterial Overgrowth
- Neuroendocrine tumours
- Irritable Bowel Syndrome
- Diverticular Disease
- Constipation (with overflow)
- Alcohol excess
- Fictitious

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What questions to ask

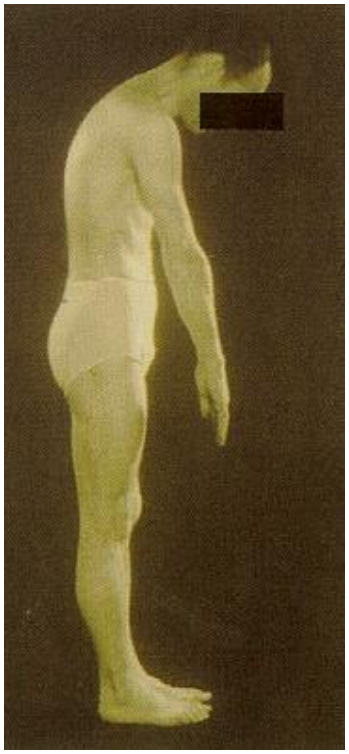
- How long? <2/52 vs ≤ 4/52 vs >4/52
- How frequent? Does it occur at night?
- What is the consistency? 1 (rock hard pellets) → 4 (soft sausage) → 7 (like water)
- If there is blood is it on stool vs in pan vs on paper?
- PMH? Drug Hx? FH? Ethnicity?
- Foreign travel? Anyone else ill? Trauma?
- N+V? ↓appetite? Loss of weight? Night sweats?
- Any eye vs skin vs joint vs liver problems?

What to look for on examination

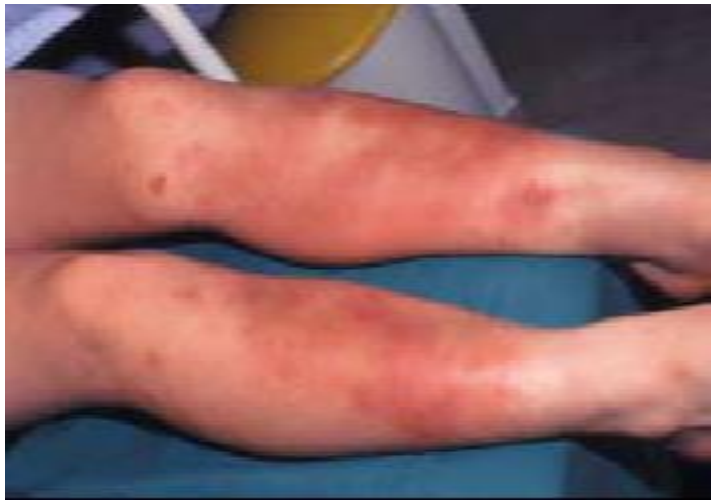
- General appearance: JACOL
  Dehydrated?
- Abdomen: soft vs tender?
  masses/organomegaly/ascites
  operation scars
  fistula/haemorrhoids/skin tags
- Eyes
- Skin

Extra intestinal manifestations

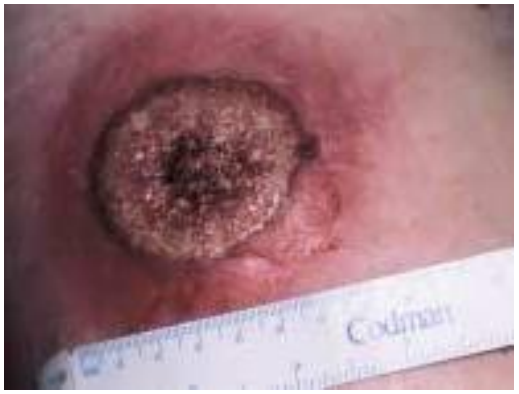
Ankylosing spondylitis



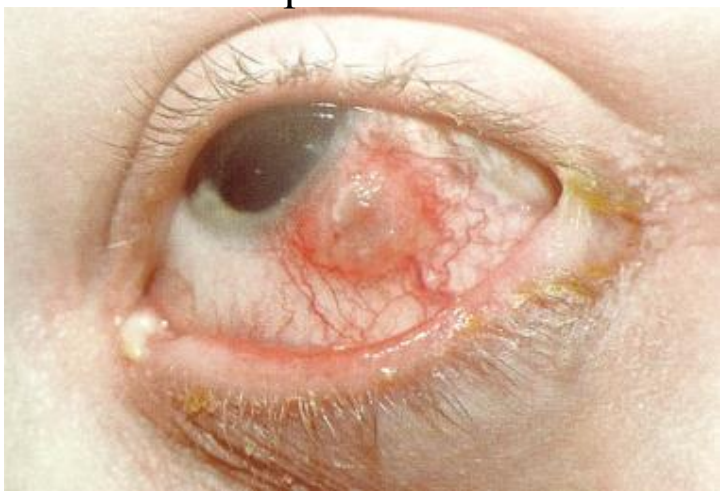
Erythema nodosum



Pyoderma gangrenosum



Episcleritis



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Case 2

- 32M admitted with 4/52 hx of PR bleeding. BO x 10 with blood & mucus. No PMH/FH/DH. ° alcohol °smoker. Originally from India but born in UK and no foreign travel. Married with children but family well.
- O/E in pain. Pulse 100, BP 95/60, RR 15, Temp 37.2 °C. Abdo soft but generalised tenderness °organomegaly or masses. BS present. PR: fresh blood.

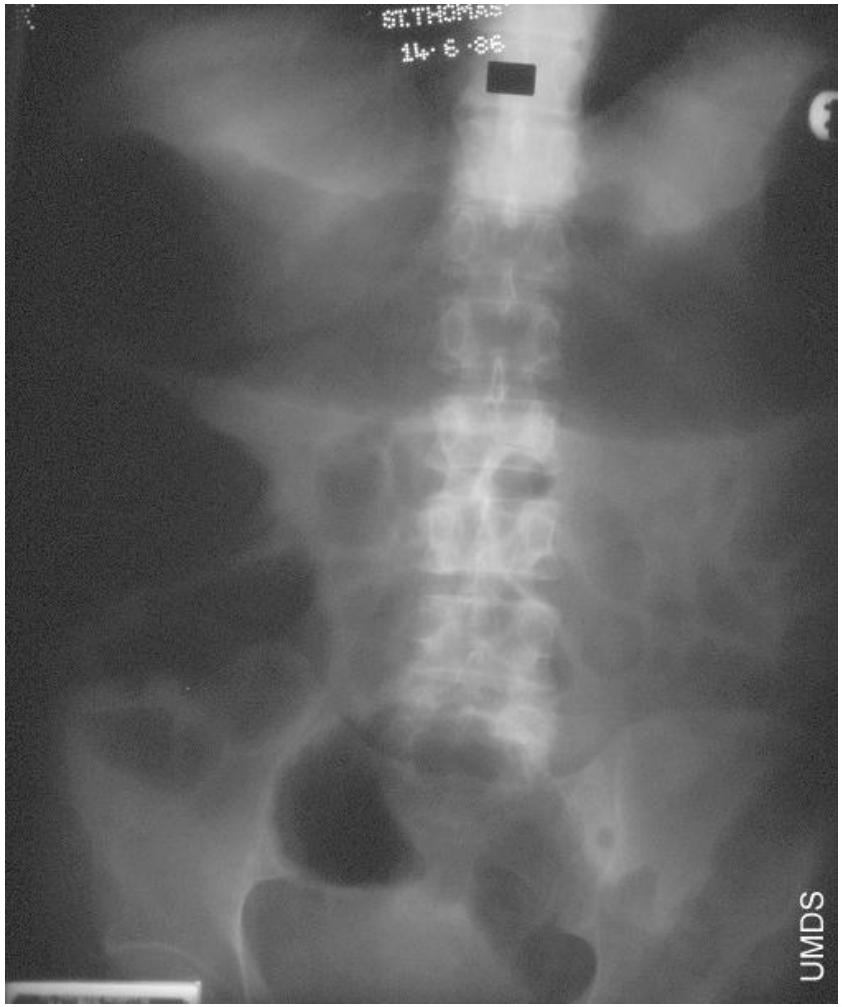
- List 5 investigations
- What is your immediate management?

SIMPLY GASTRO

Investigations

- Blood tests: FBC, U+E, LFT, Mg, ESR, CRP, INR, G+S, HIV
- Xrays: AXR, CXR
- Stool: M, C + S, *C.difficile* toxin

Why an abdominal xray is important



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Immediate management

- ABC
- Stop precipitating medications: anti-cholinergics, loperamide, iron, NSAIDs, opiods
- Keep patient in side room
- Correct any electrolyte imbalances
- Rehydrate iv/po
- Consider antibiotics if evidence of infection
- Do not give iv steroids unless sure that this is IBD and that this is a flare up
- If not settling then consider flexible sigmoidoscopy **NOT** colonoscopy

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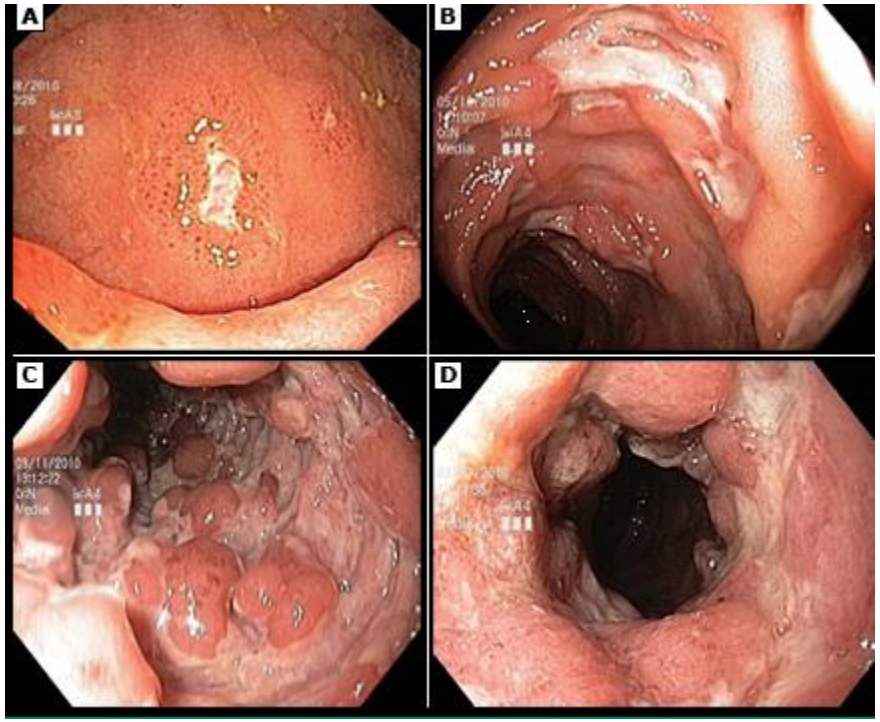
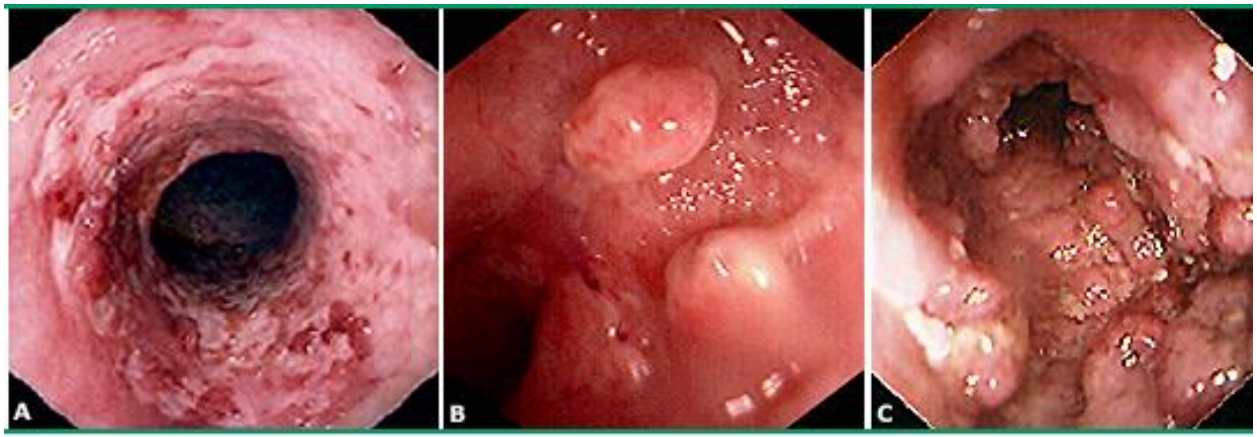
UC versus CD





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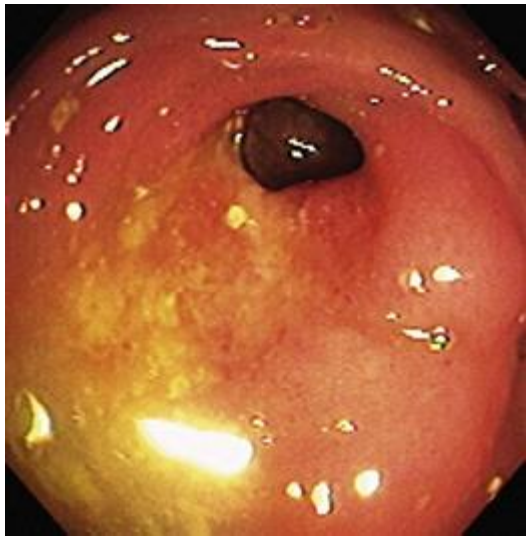
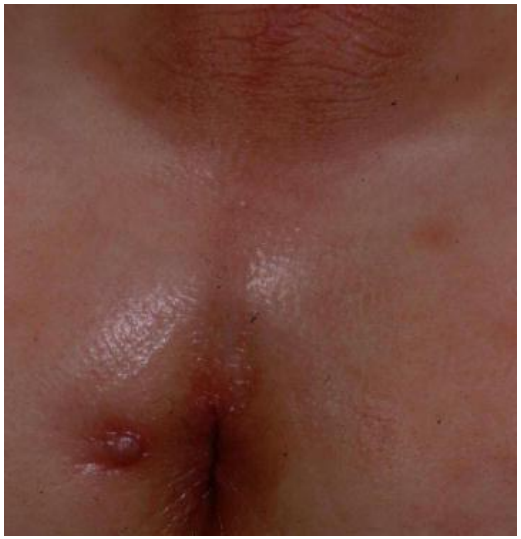
Management of acute colitis

- Exclude infection – if cannot do so then will need antibiotic cover
- AXR to exclude toxic megacolon – possibly daily
- Rehydrate
- IV hydrocortisone 100mg QDS until responding
- LMW heparin
- 5-ASA po/topically
- Flexible sigmoidoscopy to assess disease activity
- If not responding consider ciclosporin or infliximab

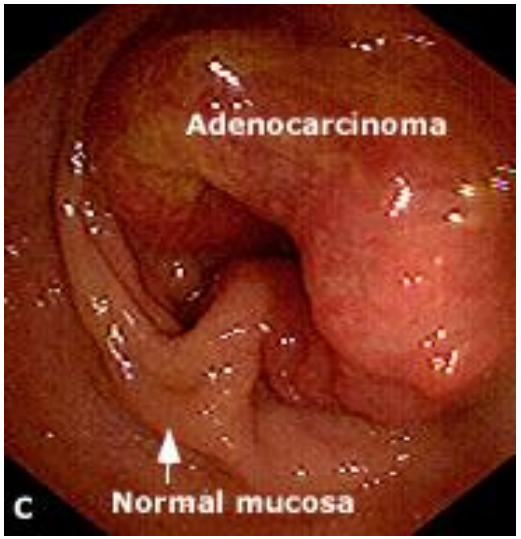
Complications of IBD



Stricture



Fistula



Bowel cancer

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“Red Flag” bowel symptoms

- Rectal bleeding with an associated change in bowel habit to looser stools or persistent increased bowel frequency for over six weeks
- Rectal bleeding without anal symptoms in an individual aged over 60
- Persistent change in bowel habit for over six weeks with increased bowel frequency or looser stools in an individual aged over 60
- Iron deficiency anaemia without an obvious cause (Hb <11 g/dl in men or <10 g/dl in postmenopausal women).
- Palpable right sided abdominal mass
- Palpable rectal (not pelvic) mass

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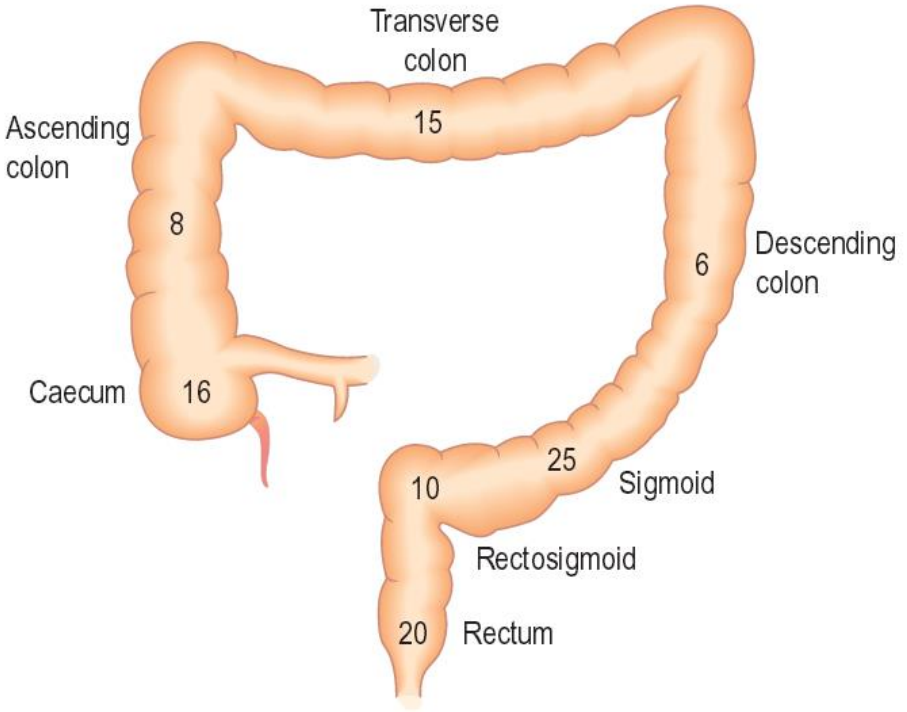
Risk Factors and Distribution (%) of Colorectal Ca.

Increased risk
- Increasing age
- Animal fat (saturated) and red meat consumption
- Sugar consumption
- Colorectal polyps
- Family history of colon cancer or colonic polyps
- Chronic inflammatory bowel disease
- Obesity (body and abdominal)
- Smoking
- Acromegaly
- Abdominal radiotherapy
- Ureterosigmoidostomy

Decreased risk
- Vegetable, garlic, milk, calcium consumption
- Exercise (colon only)
- Aspirin (including low dose) and other NSAIDs



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Investigations for bowel cancer

- **Colonoscopy (or CT pneumocolon/colonography)**

- **Blood tests:** FBC, LFTs, CEA

- **If bowel cancer found then also do:**

❑CT scan of the chest, abdomen and pelvis to stage disease and look for local spread and metastatic disease.

❑MRI +/- endoanal ultrasound but **ONLY** with rectal cancer.

- Faecal occult blood (FOB) stool test is only used for screening asymptomatic patients and **NOT** for diagnosing bowel cancer

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Case 3

- 55F referred with dysphagia
- What questions do you want to ask?

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Causes of Dysphagia

Disorders of the mouth and tongue	Extrinsic pressure
E.g. tonsillitis	Mediastinal glands
Neuromuscular disorders	Goitre
Pharyngeal disorders	Enlarged left atrium
Bulbar palsy	
Myasthenia gravis	**Intrinsic lesion**
	Benign stricture
Oesophageal motility disorders	Malignant stricture
Primary oesophageal disease	Oesophageal web or ring
Achalasia	Foreign body
Other oesophageal dysmotility	Pharyngeal pouch
Eosinophilic oesophagitis*	
Systemic disease	
Diabetes mellitus	
Chagas' disease	
Scleroderma	

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What questions to ask

- How long have symptoms have been going on?
- Progressive vs sudden
- Dysphagia for solids +/- liquids
- Is there N+V? Haematemesis? Odynophagia?
- Is there anorexia? Loss of weight?
- Is there PMH of reflux? Regurgitation? Night cough?
- PMH? DH? Smoker? Alcohol? Immunosuppressed?

Case 3

- 55F referred with progressive dysphagia for solids and liquids for 12 months. Regurgitation soon after eating. No haematemesis, no anorexia but has lost 5kg in weight.
- O/E No abnormal findings.

- What is the next investigation?
- What is the likely diagnosis?

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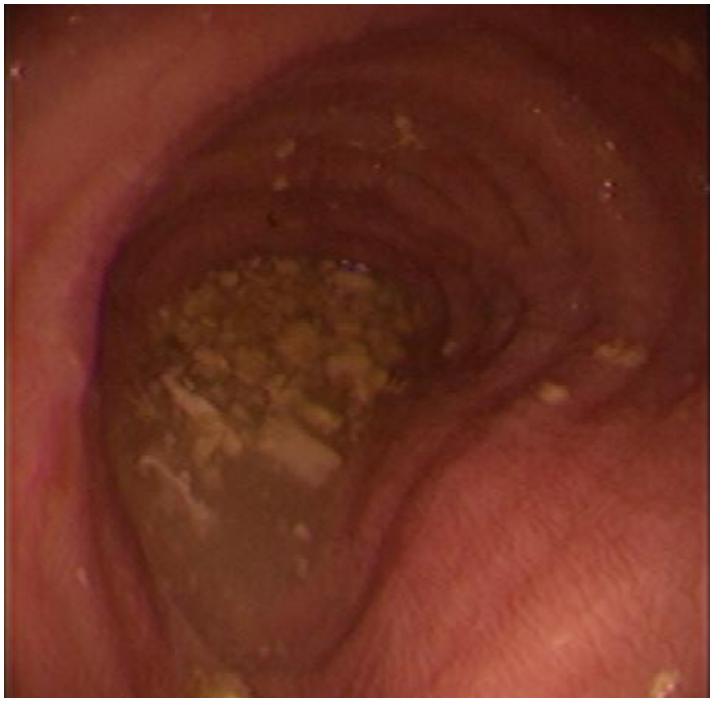
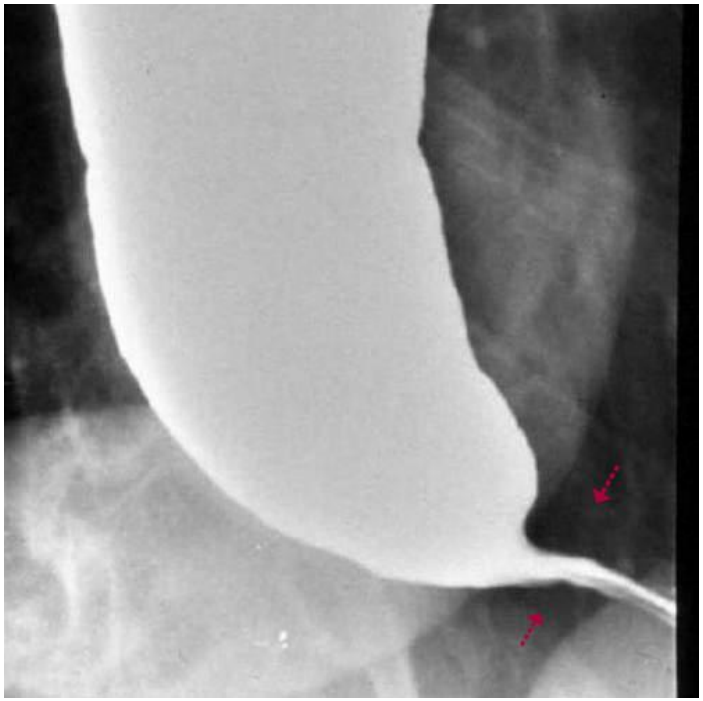
Investigations



OGD



Barium swallow

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Case 4

- 42F referred by GP with jaundice.

- What questions do you want to ask?
- What are you going to look for on examination?

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Causes of jaundice

Prehepatic	Hepatic	Extrahepatic
Haemolysis	Viral hepatitis	Gallstones
	Cirrhosis	Intra & extrahepatic cancer
	Alcoholic liver disease	PSC
	NAFLD	Biliary strictures
	Drugs (inc TPN)	Pancreatitis
	PBC	
	Pregnancy	
	Infiltrations	
	Congenital conditions	
	Heart failure	
	Sepsis & hypoperfusion	
	Intrahepatic cholestasis	

What questions to ask

- How long and was it sudden or progressive?
- Any new medications/OTC remedies/illicit drugs/etoh?
- Any risk factors for viral hepatitis: a) foreign travel b) sex c) injections or tattoos d) operations, procedures or transfusions e) FH
- Has it happened before? PMH?
- Feel unwell? Anorexia? Loss of weight? Abdo pain? Fevers?
- Sx of liver disease: a) pruritis b) bleeding c) bruising d) abdo distension e) confusion
- Pregnant?

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What to look for on examination

- General appearance: in pain? Alert? Confused? Tremor? Rigors?
- JACOL
- Hands
- Face
- Neck
- Chest
- Abdomen: tenderness? Organomegaly? Scratch marks? Ascites? PR for stool/melaena
- CNS especially MTS

Causes of Hepatomegaly		Causes of Splenomegaly	
Infective	Viral Hepatitis EBV Malaria Leishmaniasis	**Infective**	EBV Malaria Leishmaniasis
Malignant	Hepatocellular Ca. Leukaemia Lymphoma Secondary Ca.	**Malignant**	Leukaemia Lymphoma
Metabolic/ Infiltration/ Inflammatory	Fatty Amyloid Haemochromatosis Storage Diseases Sarcoid	**Metabolic/ Infiltration/ Inflammatory**	Amyloid Sarcoid Storage Diseases Haemolytic Anaemia Haemoglobinopathies SLE
Cardiovascular	Right Heart Failure Budd-Chiari	**Cardiovascular**	Portal Hypertension
Other	Reidel's Lobe Low Diaphragm		

Case 4

- 42F referred by GP with jaundice for past 4/7. Associated abdo pain, fever, anorexia and 2 kg weight loss over past 1/52. No PMH or DH. Smokes10/day and drinks alcohol socially.
- O/E very jaundiced. Pulse 98, BP 105/75, RR 18 and temperature 38.0°C. Abdomen soft with RUQ tenderness but no organomegaly. No ascites. PR normal. Orientated in TPP.

- List 5 investigations that should be done in A&E
- What is the immediate management?

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Investigations

Immediate:

- Blood tests: FBC, U+E, LFTs, INR, Blood cultures, glucose, amylase, paracetamol, salicylate
- Non-blood tests: CXR, MSU, ABG

Specialised/liver screen:

- HAV IgM, HBsAg, HCV IgG, HIV
- Autoimmune screen, Immunoglobulins, ANCA
- AFP
- Ferritin
- (Caeruloplasmin, alpha-1-antitrypsin)
- Abdominal ultrasound

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Immediate management

- ABC
- Intravenous broad spectrum antibiotics
- Rehydrate (iv/po) and monitor urine output (30ml/hr)
- Correct any electrolyte imbalance (Na/K)
- Urgent abdo ultrasound (US) for:1) ?Biliary dilatation 2) ?Focal liver lesion 3) ?PV thrombosis 4) ?Ascites
- If cholestatic LFTs + bile duct dilatation → ERCP
- If cholestatic LFTs + °bile duct dilatation → CT abdo
- If hepatitic LFTs + normal US → await liver screen +/- liver biopsy

Viral Hepatitis I

Hepatitis A (HAV)

- Only test for HAV IgM in jaundiced patients to see if acute HAV infection

Hepatitis C (HCV)

- Test for HCV IgG
- If negative then patient doesn't have HCV
- If positive then patient has had HCV in past or still has it then need to check HCV RNA: if 0 IU/mL then patient no longer has HCV but will **ALWAYS** be HCV IgG+

Viral Hepatitis II

Hepatitis B (HBV)

- If suspect HBV infection then test for HBsAg – if +ve then patient has HBV infection
- Only if positive then need to check HBV DNA (aka viral load) to quantify amount of HBV in patient
- HBcAb + will identify if patient has had HBV in the past – if you have been vaccinated then you will be HBcAb-
- HBeAg gives an indication of infectivity but nothing else
- HBsAb **ONLY** gives an indication of immunity
- If patient is HBV+ then possibility of also having HIV, HCV and delta virus

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Liver screen results

- **Autoimmune hepatitis**: ANA or Anti-smooth muscle pos + elevated IgG
- **PBC**: Anti-mitochondrial pos + elevated IgM
- **PSC**: ANCA pos + elevated IgG/M
- **Haemochromatosis**: ↑↑ Ferritin + Transferrin saturation ≥ 45% + HFE gene
- **Wilson's disease**: ↓ caeruloplasmin + ↑ 24 hr urinary Cu excretion + Kayser-Fleischer rings
- **Alpha-1-antitrypsin deficiency**: ↓ AAT + genotype
- **Hepatocellular carcinoma**: alphafeto protein (AFP)

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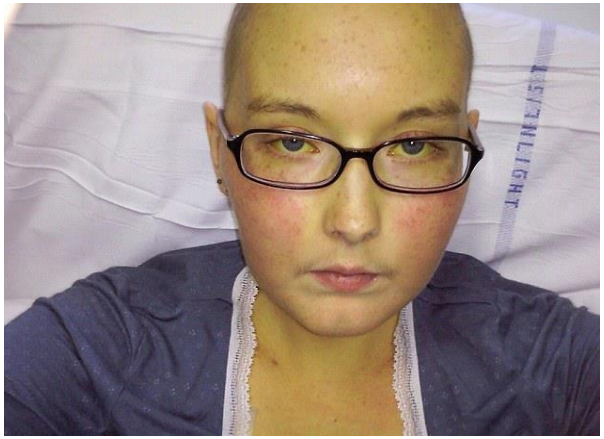
Case 5

- 48M admitted to A&E with confusion. Found outside pub smelling of alcohol with blood around mouth and nose. No other history is available.
- O/E GCS 14/15. Jaundiced with spider naevi on face and chest. Pulse 100, BP 85/60, RR 18, temperature 37.8°C. Abdomen soft, not tender, °organomegaly, distended abdomen with shifting dullness. PR: melaena.

- List 5 investigations
- What is your immediate management?

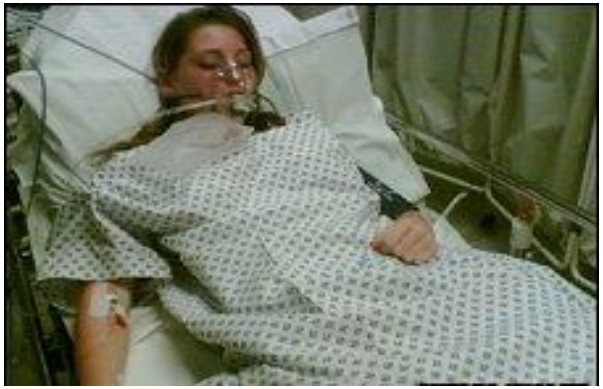
SIMPLY GASTRO

Liver disease presentations

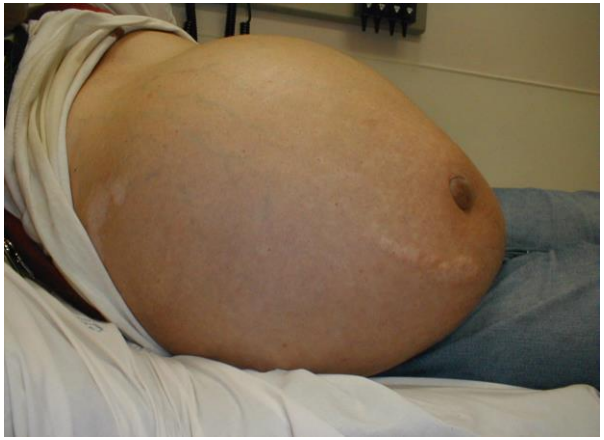


Jaundice/decompensation

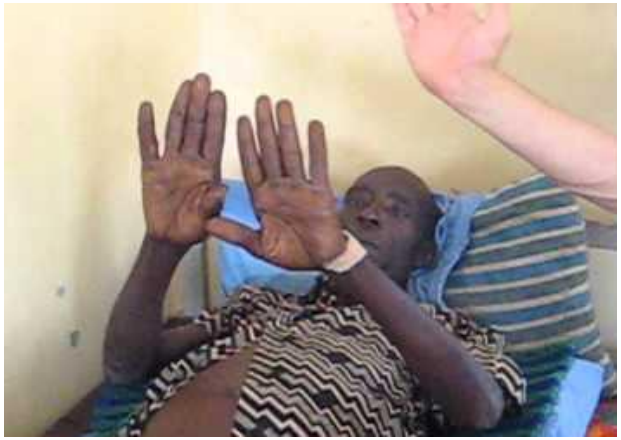
Haematemesis/variceal bleed



Drug overdose



Ascites



Hepatic encephalopathy

SIMPLY GASTRO

Encephalopathy

- Can mimic alcohol withdrawal/agitation/↓GCS/fits
- **ALWAYS** need to exclude hypoglycaemia
- Rx possible causes:
  - low Na/K
  - sepsis
  - blood transfusions
  - constipation
- CT head if no improvement after 24 hours of Rx
- Stop potentially offending drugs:
  - diuretics
  - BDZs

SIMPLY GASTRO

Investigations

- FBC
- U+E
- LFTs including GGT
- Clotting/INR
- Calcium/Phosphate/Magnesium
- Glucose/BM
- Paracetamol/salicylate levels
- CXR
- Urine dipstick/MSU
- ABG
- Diagnostic ascitic tap if suspect ascites

Immediate management

- IV Pabrinex (thiamine) 1 pair BD for 3/7
- Correct electrolytes: K, Mg, Phosphate
- Stop diuretics if ↓Na, ↑Cr or if encephalopathy present
- Exclude sepsis: urine, blood, CXR +/- ascites tap
- Monitor urine output
- Use benzodiazepines with extreme caution
- Antibiotics if evidence of GI bleed
- Do **NOT** give dextrose unless hypoglycaemic
- Vit K 10 mg OD for 3/7 if jaundiced
- CT head if confusion not resolving

SIMPLY GASTRO

Questions?