Cases in Gastroenterology and Liver disease

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Introduction

• Discuss a few common but important case scenarios

• How to approach problem and formulate plan
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
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…
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…
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
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?
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%
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?
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?
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...
Why an ECG is important...
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
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?
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**
What questions to ask

• How long? <2/52 vs \( \leq 4/52 \) vs >4/52
• How frequent? Does it occur at night?
• What is the consistency? 1 (rock hard pellets) \( \rightarrow 4 \) (soft sausage) \( \rightarrow 7 \) (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? \( \downarrow \) 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

Erythema nodosum

Ankylosing spondylitis

Pyoderma gangrenosum

Episcleritis
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?
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
Immediate management

• ABC
• Stop precipitating medications: anti-cholinergics, loperamide, iron, NSAIDs, opioids
• 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
UC versus CD
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
“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
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
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
Case 3

• 55F referred with dysphagia

• What questions do you want to ask?
## Causes of Dysphagia

<table>
<thead>
<tr>
<th>Disorders of the mouth and tongue</th>
<th>Extrinsic pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.g. tonsillitis</td>
<td>Mediastinal glands</td>
</tr>
<tr>
<td><strong>Neuromuscular disorders</strong></td>
<td>Goitre</td>
</tr>
<tr>
<td>Pharyngeal disorders</td>
<td>Enlarged left atrium</td>
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<tr>
<td>Bulbar palsy</td>
<td></td>
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<tr>
<td>Myasthenia gravis</td>
<td><strong>Intrinsic lesion</strong></td>
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<tr>
<td></td>
<td>Benign stricture</td>
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<tr>
<td><strong>Oesophageal motility disorders</strong></td>
<td>Malignant stricture</td>
</tr>
<tr>
<td>Primary oesophageal disease</td>
<td>Oesophageal web or ring</td>
</tr>
<tr>
<td>Achalasia</td>
<td>Foreign body</td>
</tr>
<tr>
<td>Other oesophageal dysmotility</td>
<td>Pharyngeal pouch</td>
</tr>
<tr>
<td>Eosinophilic oesophagitis*</td>
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<tr>
<td>Systemic disease</td>
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<tr>
<td>Diabetes mellitus</td>
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<tr>
<td>Chagas’ disease</td>
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<tr>
<td>Scleroderma</td>
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</tbody>
</table>
What questions to ask

- How long have symptoms 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?
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?
Investigations

OGD

Barium swallow
Case 4

• 42F referred by GP with jaundice.

• What questions do you want to ask?
• What are you going to look for on examination?
## Causes of jaundice

<table>
<thead>
<tr>
<th>Prehepatic</th>
<th>Hepatic</th>
<th>Extrahepatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemolysis</td>
<td>Viral hepatitis</td>
<td>Gallstones</td>
</tr>
<tr>
<td>Cirrhosis</td>
<td>Intra &amp; extrahepatic cancer</td>
<td></td>
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<tr>
<td>Alcoholic liver disease</td>
<td></td>
<td>PSC</td>
</tr>
<tr>
<td>NAFLD</td>
<td>Biliary strictures</td>
<td></td>
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<tr>
<td>Drugs (inc TPN)</td>
<td>Pancreatitis</td>
<td></td>
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<tr>
<td>PBC</td>
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<td>Pregnancy</td>
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<tr>
<td>Infiltrations</td>
<td></td>
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<tr>
<td>Congenital conditions</td>
<td></td>
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<tr>
<td>Heart failure</td>
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<tr>
<td>Sepsis &amp; hypoperfusion</td>
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<td></td>
</tr>
<tr>
<td>Intrahepatic cholestasis</td>
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</tbody>
</table>
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?
• Sx of liver disease: a) pruritis b) bleeding c) bruising d) abdo distension e) confusion
• Pregnant?
What to look for on examination

- JACOL
- Hands
- Face
- Neck
- Chest
- CNS especially MTS
<table>
<thead>
<tr>
<th>Causes of Hepatomegaly</th>
<th>Causes of Splenomegaly</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infective</strong></td>
<td>EBV</td>
</tr>
<tr>
<td>Viral Hepatitis</td>
<td>Malaria</td>
</tr>
<tr>
<td>EBV</td>
<td>Leishmaniasis</td>
</tr>
<tr>
<td>Malaria</td>
<td>EBV</td>
</tr>
<tr>
<td>Leishmaniasis</td>
<td>Malaria</td>
</tr>
<tr>
<td><strong>Malignant</strong></td>
<td>Leukaemia</td>
</tr>
<tr>
<td>Hepatocellular Ca.</td>
<td>Lymphoma</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>Leukaemia</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>Lymphoma</td>
</tr>
<tr>
<td>Secondary Ca.</td>
<td>Leukaemia</td>
</tr>
<tr>
<td><strong>Metabolic/Infiltration/Inflammatory</strong></td>
<td>Sarcoid</td>
</tr>
<tr>
<td>Fatty</td>
<td>Storage Diseases</td>
</tr>
<tr>
<td>Amyloid</td>
<td>Sarcoid</td>
</tr>
<tr>
<td>Haemochromatosis</td>
<td>Storage Diseases</td>
</tr>
<tr>
<td>Sarcoid</td>
<td>Sarcoid</td>
</tr>
<tr>
<td>Haemoglobinopathies</td>
<td>Sarcoid</td>
</tr>
<tr>
<td>SLE</td>
<td>Sarcoid</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td>Haemolytic Anaemia</td>
</tr>
<tr>
<td>Right Heart Failure</td>
<td>Haemoglobinopathies</td>
</tr>
<tr>
<td>Budd-Chiari</td>
<td>SLE</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Portal Hypertension</td>
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<tr>
<td>Reidel’s Lobe</td>
<td>Portal Hypertension</td>
</tr>
<tr>
<td>Low Diaphragm</td>
<td>Portal Hypertension</td>
</tr>
</tbody>
</table>
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. Smokes 10/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?
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
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
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)
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?
Liver disease presentations

- Jaundice/decompensation
- Haematemesis/variceal bleed
- Ascites
- Hepatic encephalopathy
- Drug overdose
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
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
Questions?