Your go-to guide for when you review a patient with RUQ pain

ACUTE CHOLECYSTITIS

ACUTE CHOLANGITIS

CURB65 PNEUMONIA

RUQ pain +/-

1. Nausea/Vomiting – Think Biliary colic/**Acute calculous cholecystitis**
2. Jaundice + Fever – Think **Ascending cholangitis**
3. Respiratory symptoms – Think **Pneumonia**
4. Red flag signs + Jaundice – Think **malignancy**

Examination:

1. General examination
2. Abdominal examination
3. Respiratory examination

Relevant Findings:

- Yellow discoloration of sclera
- Percussion Tenderness = Peritonism
- Abnormal chest auscultation

Observations/NEWS
(**q-SOFA** sepsis criteria)

Q-SOFA Sepsis Criteria

- ❑ SBP < 100 mmHg
- ❑ GCS < 15
- ❑ RR > 22/minute

If 2/3 of the above present = SEPSIS

Investigations: MUST do !

1. **Bloods**: FBC, U&E, **LFT**, Lactate, Amylase, Coagulation screen, G&S
2. **Urine Dip + Beta HCG**
3. **Radiology:** CXR +/- AXR

- Deranged inflammatory markers: **WCC >11 or <4, CRP > 50**
- **New AKI**
- **Deranged LFTs**
- X-Ray evidence of **consolidation**

Peritonism + Sepsis + Deranged inflammatory/liver markers

All THREE present
Urgent senior advice (#5000)

1. NBM + IV Fluids
2. Regular Paracetamol + Opiate and PRN Morphine + Antiemetic
3. IV Antibiotics if septic/ Deranged inflammatory markers*
4. Strict Input/output charting
5. Stop Anticoagulants if bleeding/Abnormal Coag
6. Follow AKI bundle if AKI **

While awaiting senior review – DO THIS:

ONE/TWO out of THREE present

1. Orally Sips only
2. IV fluids if AKI
3. Regular Paracetamol + Opiate and PRN Morphine + Antiemetic
4. Abdominal USS (if not done in last 1 year)

Review on ward round

* Refer to trust guidelines for choice of antibiotics
** AKI bundle on trust guidelines

ACUTE CHOLECYSTITIS

Gall stones are the Most common cause of cholecystitis. (Acute Calculous cholecystitis)
Stones can cause an obstruction of the gall bladder outflow by getting lodged at the hartmanns pouch or cyctic duct. This results in STASIS + INFECTION.

Patients with diabetes or immunosuppression can develop acute acalculous cholecystitis.

Presentation -

- Acute (>6hours) RUQ pain
- Associated symptoms - nausea or vomiting and reduced appetite.

Examination -

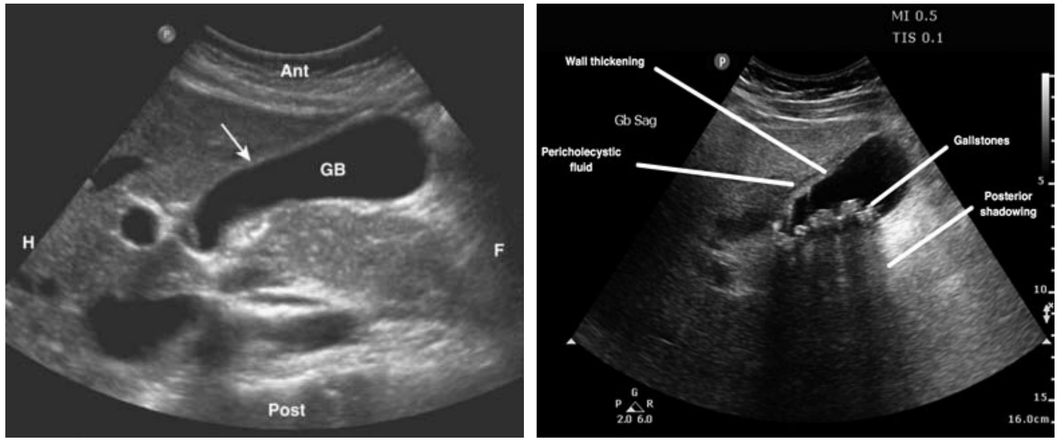
Tenderness in RUQ + peritonism (Murphys sign - Click here to learn how)

A. Local signs of inflammation
(1) Murphy's sign,
(2) RUQ mass/pain/tenderness

B. Systemic signs of inflammation
(1) Fever >38
(2) elevated CRP >1
(3) elevated WBC count (>10 or <4)

C. Imaging findings - Imaging findings characteristic of acute cholecystitis (AUSS or MRCP)

Suspected diagnosis: one item in A + one item in B
Definite diagnosis: one item in A + one item in B + C



Images: Normal AUSS (Left) and an AUSS with acute calculous cholecystitis (Right)
Note the Opaque gall stones and gall bladder wall thickening (>4mm).

Complications - May need level 2/3 care

1. **Local** - Necrosis of gall bladder, Perforation, mass & Liver abscess
2. **Systemic** - Driven by S.I.R.S

- Cardiovascular - Sustained HyPOtension needing vasopressors
- Neurological dysfunction - GCS <15
- Respiraory dysfunction - Type 1 RF
- Renal dysfunction - AKI (1-->3)
- Hepatic - PTr >1.5
- Haematological - Platelet <100,000

Management of cholecystitis -

1. Assess severity (Grade I/II/III)
2. I.V fluids + Oral sips only
3. I.V Antibiotics based on trust guidelines (Check allergies)
4. Definitive management - based on severity grading. Options are:

- Emergency Laparoscopic cholecystectomy
- I.V Antibiotics + Elective cholecystectomy >6/52
- PTBD (**P**ercutaneous **T**ranshepatic **B**iliary **D**rainage)

(Justification - Usually in patients who are too unwell or too unfit for surgery)

MD+CALC
ACUTE CHOLECYSTITIS

WORTH A READ - TOKYO GUIDELINES

TAKE A QUIZ..
NO PRESSURE !

ASCENDING CHOLANGITIS

A combination of CHOLESTASIS + S.I.R.S.
Occurs when a gall stone notoriously trickles out of the gall bladder and obstructs the C.B.D causing upstream pressure on the liver = STASIS + INFECTION

Charcots Triad- Jaundice + Fever + RUQ pain
Raynauds Pentad - Triad + HyPOtension + Altered GCS

Presentation - most commonly acute RUQ pain + New icterus + signs of sepsis.

Examination -

- Can be **very unwell** (Hypotensive, Tachycardic, Febrile, GCS <15)
- Jaundice + Tender RUQ, May be murphys +.

Investigation of choice -

- Abdominal ultrasound
- MRCP (Magnetic resonance cholangio pancreaticography) helps identify the cause of obstruction.

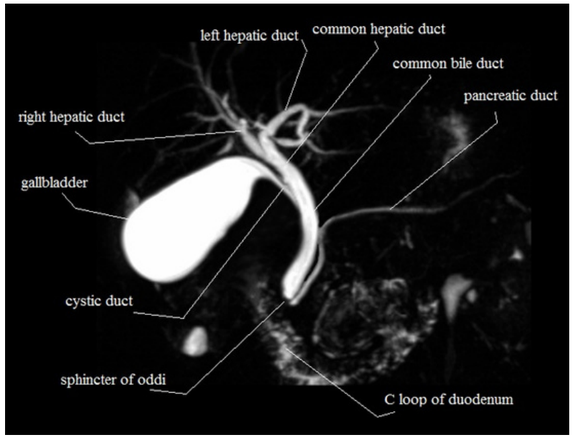
Diagnosis is based on presenting symptoms, blood tests and imaging evidence of obstruction -

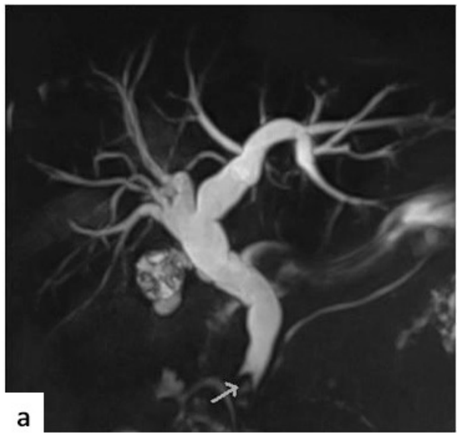
A. Systemic inflammation
A-1. Fever >38
A-2. Laboratory data: evidence of inflammatory response (WCC >10 or <4, CRP >1)

B. Cholestasis
B-1. Jaundice (Bil >2mg/dl)
B-2. Laboratory data: abnormal liver function tests (>1.5 X upper limit of normal)

C. Imaging
C-1. Biliary dilatation (AUSS/CT)
C-2. Evidence of the etiology on imaging (stricture, stone, stent - MRCP)

Suspected diagnosis: one item in A + one item in either B or C
Definite diagnosis: one item in A, one item in B and one item in C





Images: Normal MRCP anatomy (Left) and stone (arrow) obstructing CBD and causing upstream dialatation (right)

Complications - May need level 2 & 3 care

1. **Local** - Due to outflow obstruction of the liver

- Hepatic - PTr >1.5, Albumin <30
- Acute Pancreatitis

2. **Systemic** - Driven by S.I.R.S

- Cardiovascular - Sustained HyPOtension needing vasopressors
- Neurological dysfunction - GCS <15
- Respiraory dysfunction - Type 1 RF
- Renal dysfunction - AKI (1-->3)
- HAematological - Platelet <100,000

Management of Ascending Cholangitis -

1. Assess severity grade
2. I.V fluids + Oral sips only
3. I.V Antibiotics based on trust guidelines
4. Control of sepsis/Drainage options (Click here for video)

- E.R.C.P (**E**ndoscopic **R**etrograde **C**holangio-**P**ancreaticography) + drainage/ stenting
- PTBD (**P**ercutaneous **T**ranshepatic **B**iliary **D**rainage)

5. Definitive management - laparoscopic cholecystectomy

ACUTE CHOLANGITIS

WORTH A READ - TOKYO GUIDELINES

TAKE A QUIZ..
NO PRESSURE !

PANCREATIC CANCER

Mostly sporadic but commonly seen in elderly. In >50%, age at diagnosis > 75yrs.
Other risk factors include:

- Smoking tobacco
- Obesity
- Family history (First degree relative)
- Chronic pancreatitis (alcohol excess)
- MEN1 syndrome/ Lynch syndrome/ Peutz-Jeghers syndrome

Presentation - Early cancer is usually asymptomatic

1. Abdominal pain (>70%) - Epigastric --> Back
2. Obstructive symptoms due to tumour related obstruction of:

- Common bile duct - jaundice
- Pancreatic duct - steatorrhea

3. Weight loss due to malabsorption and steatorrhea
4. Newly diagnosed diabetes

Examination - Epigastric pain + Icterus

Investigation of choice - Initially CT AP with I.V contrast in the emergency setting

- Pancreatic protocol CT (Triphasic CT with arterial, Delayed arterial and venous phase) + CT Chest
- If Diagnosis not clear - FDG PET-CT or EUS (Endoscopic ultrasound)+ Biopsy
- Tumour markers - Ca19.9 +/- CEA

- For Staging -

MRI liver (If suspected liver metastasis)
Endoscopic ultrasound (Nodal staging)
+/- Diagnostic laparoscopy for peritoneal disease

Management - Guided by Multidisciplinary discussions

1. Definitive management - Resectable cancer

- Pre-operative chemotherapy (Neo-Adjuvant CT)
- Surgery (Total pancreatectomy/distal pancreatectomy/Whipples)
- Post operative chemotherapy (Adjuvant CT)

2. Biliary decompression

- **E**ndoscopic **R**etrograde **C**holangio**P**ancreaticograohy + Internal stent
- **P**ercutaneous **T**ransheatic **B**iliary brainage (PTBD)

3. Palliative management - Unresectable/advanced cancer

- Pain management/ MacMillan cancer supprt
- Palliative surgery/drainage procedures/Palliative chemotherapy

WORTH A READ - NICE GUIDELINES

TAKE A QUIZ..
NO PRESSURE !

CHOLANGIOCARCINOMA

Very rare. More common in men. In >60%, age at diagnosis >65yrs.
Likely risk factors are those that cause chronic bile duct inflammation:

- Primary Sclerosing Cholangitis (5-10% risk)
- Choledochal cysts (30% risk)
- Liver cirrhosis/Hepatitis B or C/liver flukes

Presentation - Depends on **location**

1. Intrahepatic -

- Asymptomatic, weight loss
- Pain due to liver capsular stretch

2. Peri-Hilar and Distal -

- Obstruction - jaundice
- Cholangitis due to infection of stagnant bile

Examination - Epigastric pain/RUQ pain + Icterus +/- Cachexia

Investigation of choice - Initially Abdominal USS in the emergency setting

- MRI/MRCP (Magnetic Resonance Cholangio Pancreatography)
- Tumour markers - Ca19.9

- For Staging -

CT Chest +/- FDG PET-CT
Endoscopic ultrasound (Nodal staging)
+/- Diagnostic laparoscopy for peritoneal disease

Management - Guided by Multidisciplinary discussions

1. Surgery - Definitive management
2. Biliary decompression

- **E**ndoscopic **R**etrograde **C**holangio**P**ancreaticograohy + Internal stent
- **P**ercutaneous **T**ransheatic **B**iliary brainage (PTBD)

3. Palliative management - Unresectable/advanced cancer

- Pain management/ MacMillan cancer support
- Palliative surgery/drainage procedures/palliative chemotherapy

WORTH A READ - BMJ GUIDELINES

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