CHOLECYSTITIS

DEFINITIONS.

Cholecystitis - inflammation of the gallbladder (most commonly due to gallstones).

Biliary colic - syndrome of RUQ pain (lasting 2-6 hours, remitting spontaneously)

Acute acalculous cholecystitis - develops in absence of gallstones.
- Old patients w/ critical illness (burns, trauma, major surgery)

Gallbladder perforation - occurs in ~10% of patients w/ cholecystitis.
- Can lead to *gallstone ileus.*

Chronic cholecystitis - Protracted gallbladder inflammation due to repeated episodes of gallstone obstruction. Results in progressive fibrotic thickening.
- *Porcelain gallbladder* - extensive calcification of GB.

Emphysematous cholecystitis - an infection on the GB with gas-forming organisms.
- Leads to rapid clinical deterioration.
- Gangrene & perforation are common.

Biliary sludge - a result of dysmotility. Can progress to gallstones.

Cholangitis - Ascending infection due to partial or complete bile duct obstruction.

Choledocholithiasis - stones in the CBD.

PATHOPHYSIOLOGY.

Bile is mostly water (80%), plus bile acids (10%), lecithin, phospholipids & cholesterol. It also contains bilirubin, electrolytes, mucous & proteins.
- Formed by hepatocytes
- Concentrated within GB.

Impaired GB contraction leads to risk of gallstone formation [pregnancy, obesity, rapid weight loss & DM].

With gallstone passage comes pain, nausea & vomiting.
- If stone becomes obstructed → inflammatory response [chemical ± infectious].
  - Prostaglandin mediated.
- Mechanical inflammation occurs [↑ intraluminal pressure, distention, visceral ischaemia]. Can allow bacteria or pancreatic enzymes to be refluxed in....
- Infectious agents include gram negatives [E.coli, Klebsiella] & gram positives [enterococcus, staph & strep]. Bacteroides & Clostridium are also found.
  - Mostly *polymicrobial !!*

CLINICAL FEATURES.

Acute GB disease should be considered in the DDx of upper abdominal pain in any patient whose GB has not been removed (esp. the elderly).

- Classic RUQ pain.
  - Radiation to epigastrium, around the wait, back, scapula or right shoulder.
  - Radiation to left upper back = +LR of 4 !!
- Peak symptoms at 1am !!
- May have associated fevers, diaphoresis, N&V.

DIAGNOSIS.

Acute cholecystitis (& its complications) must be distinguished from simple biliary colic.

- No single clear clinical or lab finding sufficiently rules in (or out) cholecystitis.
- Murphey's sign is most sensitive.

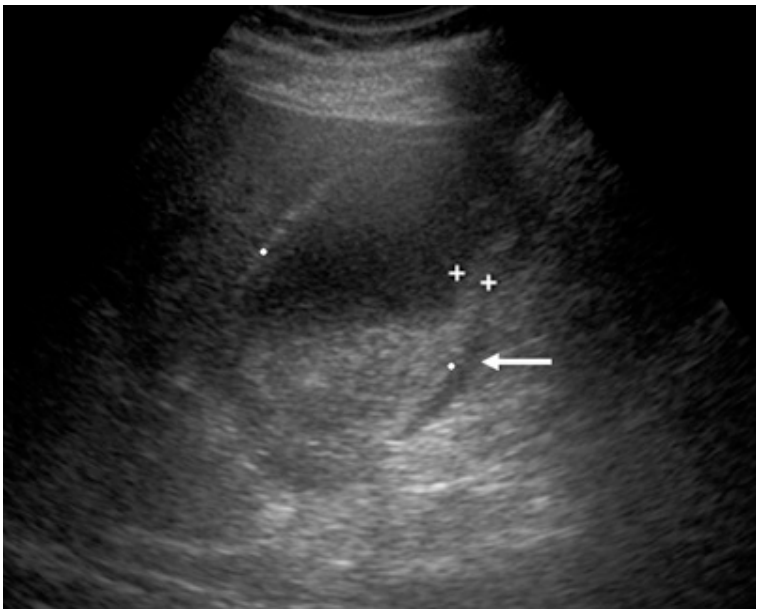
Both WCC & CRP have poor Sn & Sp for cholecystitis.

IMAGING.

- RUQ ultrasound.
  - Sn 94%, Sp 78%.
  - Sonographic Murphey's
  - GB wall > 3mm
  - CBD > 6mm.

- CT.
  - Helpful when USS is equivocal
  - Sn 95%, Sp 96%.

- HIDA scan (nuclear med)
- MRCP (MRI).
  - Sn 100%



TREATMENT.

No treatment required for asymptomatic gallstones.

- Referral to surgeon should be offered.

Biliary colic.

- Analgesia [opiates, paracetamol, NSAIDS]
- Referral to surgeon → Lap Chole.

Acute cholecystitis.

- Analgesia
- Antiemetics
- NBM, IV fluids, electrolyte replacement/correction

- IV ABx
    - Ceftriaxone / cefotaxime *plus* metronidazole.
    - Severe disease: Tazocin.
- Surgical admission
    - Lap chole is treatment of choice ± ERCP for sphincterotomy.
- Complications include:
    - ascending cholangitis
    - emphysematous cholecystitis
    - gangrenous cholecystitis
    - pancreatitis

Special Considerations.

Acute cholangitis.
- Requires biliary obstruction & infected biliary tract
- Causes include choledocholithiasis, strictures or malignancy.
- CHARCOT TRIAD.
    1. Fever
    2. Jaundice
    3. RUQ pain
- Treatment.
    - Aggressive volume resuscitation / EGDT
    - Broad spectrum ABx
    - Surgical referral → ERCP.

Chronic cholecystitis.
- Similar to biliary colic & acute cholecystitis [lower intensity of symptoms]
- US may show *porcelain gallbladder*

Emphysematous cholecystitis.
- Characterised by air in GBW due to infection of gas-forming organisms (esp. C perfringens)
- Usu. progress to sepsis & gangrenous cholecystitis.

Mirizzi Syndrome.
- Partial obstruction of common hepatic duct 2* to stone impaction & chronic inflammation.
- Symptoms of acute cholecystitis with dilated intrahepatic ducts & jaundice.
- Usu. requires open cholecystectomy.

Gallstone ileus.
- Bowel obstruction due to impaction of gallstone at terminal ileum (ileocaecal valve)
- Pneumobilia & bowel obstruction
- High morbidity & mortality.