Gallstones

GLMS CME Night
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Gallstones

Epidemiology

- Prevalence 10-15% in developed countries
- Pregnancy or weight loss surgery are associated with around 30% incidence of sludge or stones
- 20% symptomatic
- Per year
  - 2% become symptomatic
  - 0.2% develop complications
  - 0.02% develop gallbladder cancer
- After 1st attack of biliary colic, 70% will get further symptoms
- After 1st bout of complications, about 30% per year get further complications, often more severe

Gallstones

When to refer?

- Consider after 1st episode of biliary colic
- Recurrent biliary colic
- Complications
- Asymptomatic gallstones with deranged LFTs?

Biliary Colic

- Constant (not colicky) dull pain in RUQ/epigastrium
- Increases over minutes and stays for few hours
- May be associated with nausea and vomiting
- May be triggered by fatty foods

Biliary Colic

- Factors that make gallstones unlikely to be cause of symptoms
  - pain worse with movement or change in position
  - pain changes with bowel movements, burping, or flatus
  - chronic pain that is constant or there most of the time
  - bloating
  - nausea or vomiting without pain

Biliary Colic

- USS has a high sensitivity and specificity for gallstones
- Sludge can cause symptoms similar to stones, especially due to passage down CBD
- CT not routinely indicated but useful to look for other causes of pain in patients with atypical symptoms
- MRI not routinely indicated but used to look for biliary obstruction
- Gastroscopy sometimes indicated to look for alternative causes of pain
- Endoscopic USS may detect small (<3mm) stones for patients with symptoms suggestive of CBD stone passage but negative USS/MRI

Biliary Colic

- Blood tests often normal
  - Most patients with symptomatic gallstones have normal LFTs
  - Small stones passing through CBD may cause derangement in LFTs
  - LFTs derangement more often unrelated (eg. fatty liver or medication related)

Biliary Colic

- Number and size of stones do not necessarily correlate with severity of symptoms, but may influence the kind of complications
- Patients with no symptoms or those with symptoms but elect not to have a cholecystectomy do not need USS “surveillance”
- Changes in size and number of stones do not constitute medical indication for surgery

Complications

Acute cholecystitis

- Impaction of gallstone with persistent GB outflow obstruction and inflammation +/- infection
- Persistent pain, systemic unwellness, tenderness
- USS may show thickened GB wall, pericholecystic fluid, and probe tenderness
- Most patients have history of biliary colic
- Most patients do not have significant LFT derangements

Acute cholecystitis

- Some patients with severe gangrenous cholecystitis may appear to get better (less pain and tenderness) but remain febrile or high inflammatory markers
- About 10% can perforate and form an abscess (“free” peritoneal perforation rare)
- Most patients are treated with index admission cholecystectomy
- Mild cholecystitis can be treated with early elective surgery (within 1 week or so)

Choledocholithiasis (CBD stones)

- 10-15% patients with symptomatic gallstones have CBD stones
- Typically biliary pain associated with elevated bilirubin/ALP/GGT
- USS may show CBD or intrahepatic duct dilatation but often can't confirm CBD stones
- Duct size increases with age and in post-cholecystectomy state
- Best diagnosed on MRI or EUS

- 0 to 4 mm: 3.9 percent
- 4.1 to 6 mm: 9.4 percent
- 6.1 to 8 mm: 28 percent
- 8.1 to 10 mm: 32 percent
- >10 mm: 50 percent

Chance of finding CBD stone at lap chole based on size of CBD at USS

Hunt, Australa Radiol 1996

Choledocholithiasis (CBD stones)

Management of CBD stones

Pre-op Diagnosis

- ERCP first
- Lap chole with intraoperative exploration
- Lap chole then post-op ERCP

Intra-op Diagnosis

- Duct flushing for tiny stones
- Transcystic CBD exploration
- Choledochotomy
- Intra-op ERCP (difficult logistically)
- Post-op ERCP

Post-op Diagnosis

- Expectant management for solitary +/- small stones
- ERCP
  - If ERCP fails, options are PTC or reoperation