Vale of York Clinical Commissioning Group

Referral Support Service

General Surgery

GS06
Upper GI topic: Gall stone disease

Definition

Murphy's sign – on inspiration by the patient, palpation in the RUQ elicits pain whereas palpation over the LUQ does not.

Gall stone disease can present at any point along a spectrum of conditions which increase in severity as listed below: (1)

Biliary Colic –

- Caused by obstruction of the cystic duct or a large stone in the neck of the gall bladder.
- RUQ colicky abdominal pain for up to 8 hours.
- Can be associated with nausea and vomiting.
- Murphy's sign negative.
- LFT's, CRP/WCC and temperature normal.

Acute cholecystitis –

- Caused by blockage of the cystic duct with surrounding inflammation and infection of the gall bladder (90% gall stone related, 10% acalculous).
- RUQ colicky abdominal pain lasting > 8 hours, becoming more constant and severe.
- Pain often radiates to the back and/or the right shoulder.
- Associated with nausea and vomiting.
- Murphy's sign positive.
- Likely raised temperature and CRP/WCC. ALT often elevated.

Choledocholithiasis –

- Caused by blockage of the common bile duct (CBD) by a stone which has migrated from the gall bladder or by a stone forming in situ in the CBD.
- RUQ pain lasting >8 hours, becoming more constant and severe if the stone is not passed.
- Associated with nausea and vomiting.
- Murphy's sign likely to be positive.
- The blockage of the biliary tree leads to obstructive jaundice with increase in bilirubin, ALT, GGT and ALP.
- Temperature, CRP and WCC likely to be raised.
- If the stone is low in the CBD and also obstructs the pancreatic duct, then acute pancreatitis may develop.
- Pale stools and dark urine

Ascending cholangitis –

- Progression of choledocholithiasis as infection ascends the biliary tree above the level of the blockage.
- Associated with RUQ pain > 8 hours, nausea and vomiting, Murphy's sign positive and fever.
- Bilirubin, ALT, GGT, ALP, WCC, CRP and temperature likely to be raised.
- ***Charcot's triad*** – fever- usually with rigors, jaundice and RUQ pain

Gallstone Illeus –

- Silent gall bladder inflammation can lead to a gall stone fistulating through the gall bladder wall into the duodenum.
- This then travels and impacts in the narrowest portion of small bowel (terminal ileum)
- Causes mechanical obstruction (hence ileus is a misnomer as not a functional obstruction)
- Supine AXR will show dilated small bowel loops, air in the biliary tree from small bowel gas ascending through the fistula and the gall stone may be visible

Exclude Red Flag Symptoms

Painless jaundice is unlikely to be gallstone related and signifies a head of pancreas tumour until proven otherwise.
Couvoisier's sign (or law) describes a palpable gallbladder/mass in the RUQ of patients with obstructive jaundice and is caused by tumors of the biliary tree or pancreatic head. The onset of jaundice is slow and progressive. The obstruction causes the gall bladder to dilate. The wall of the gall bladder is thin. This is in contrast gall stone disease, where the gall stones cause a fibroepithelial thickening of the gall bladder wall. Couvoisier's sign is thus negative in gall stone disease because the gall bladder is reduced in size by the fibrotic reaction.

Management

Approximately 10-15% of the adult Western population will develop gallstones, with between 1 and 4% developing symptoms. (2)
Gall stones occur when there is an imbalance in the chemical constituents of bile that results in precipitation of one or more of its constituents

Risk factors:

- The 4 F's- "Fat, fertile, female and family history"
- Age > 60
- Oestrogen – causes excess excretion of cholesterol in bile
- High fibre diet
- Pregnancy –oestrogen related.
- Rapid weight loss (e.g. after bariatric surgery)
- Statins
- Loss of bile salts (terminal ileitis or after terminal ileal resection)
- Diabetes – via metabolic syndrome

Suspected biliary colic

- Manage in primary care
- Analgesia – NSAID +/- opiate
- Antiemetic if vomiting
- Check LFT's, amylase and book outpatient biliary USS
- Ask patients to make a diary of episodes
- Discuss if multiple attacks referral and if the patient would want surgery

Suspected acute cholecystitis, choledochlithiasis or ascending cholangitis,

- Admit to trust
- IV Abx
- Consideration for acute laparoscopic cholecystectomy or delayed procedure after 6 weeks when inflamed thickened gall bladder has settled and thickened making surgery much less risky.

Incidental Gallstones seen on a scan

- Asymptomatic gallstones develop complications at a rate of 0.2 to 0.8% per year.
- Over a 20 year period, 18% of patients with known gallstones will develop gallstone related pain
- The likelihood of problems developing is obviously increased in the younger patient
- In a more elderly, frail patient it maybe more appropriate to adopt a policy of watching and waiting as the probability for development of problems will be reduced.
- Small stones are more likely to migrate into the CBD and cause more severe problems
- Discuss with the patient need for referral depending on age, USS findings and the presence of any symptoms.

Referral Information

Information to include in referral letter

- Description of number of episodes and severity.
- LFT's, inflammatory markers and USS scan report including any evidence of CBD dilatation.
- Willingness of the patient to under-go significant abdominal surgery.
- Relevant past medical / surgical history
- Current regular medication
- BMI/ Smoking status

Investigations prior to referral

FBC, U&E's, LFT's, biliary USS

Patient Information Leaflets/ PDAs

http://www.patient.co.uk/health/abdominal-pain
http://www.patient.co.uk/health/acute-pancreatitis

References

1) Hirota M (2007). Diagnostic criteria and severity assessment of acute cholecystitis: Tokyo guidelines. J Hepatobiliary Pancreat Surg; 14, 78-82.
2) Sanders & Kingsnorth (2007). Gallstones. BMJ; 335:295-9
3) Acute cholecystitis and cholangitis. Leeds health pathways. http://nww.lhp.leedssth.nhs.uk