CASE SEVEN

Short case number: 3_3_7
Category: Gastrointestinal and Hepatobiliary
Discipline: Surgery
Setting: Emergency Department
Topic: Biliary tree disorders-choledocholelithiasis and cholecystectomy [SDL]

Case:

Mark Constonopoulous, aged 58 years, presents with acute abdominal pain and jaundice. An ultrasound demonstrates a 0.9cm gallstone in the gallbladder and a second gallstone 0.5cm diameter thought to be in the common bile duct causing obstruction.

Questions

1. List the differences in the clinical presentation and evaluation of a jaundiced patient with choledocholithiasis and a jaundiced patient with biliary obstruction secondary to malignancy.
2. Describe the clinical presentation, evaluation and management of a patient with acute cholecystitis and acute cholangitis.
3. Describe the management of acute gallstone pancreatitis.
4. List the options to treat stones in the gallbladder and the biliary tree
5. It is decided that Mark will have a cholecystectomy and exploration of his common bile duct. Outline the indications for cholecystectomy and discuss the advantages of the laparoscopic approach over open cholecystectomy.
6. Compare and contrast the complications of open and laparoscopic cholecystectomy
7. Outline the principles of post-operative management following cholecystectomy and common bile duct exploration

Suggested reading:

1. Henry MM, Thompson JN, editors. Clinical Surgery. 3rd edition. Edinburgh: Saunders; 2012.

2. Garden OJ, Bradbury AW, Forsythe JLR, Parks RW, editors. Davidson's Principles and Practice of Surgery. 6th edition. Philadelphia: Churchill Livingstone Elsevier; 2012.

ANSWERS

1. **differences in the clinical presentation and evaluation of a jaundiced patient with choledocholithiasis and a jaundiced patient with biliary obstruction secondary to malignancy**

   - painless jaundice suggests malignancy
   - imaging will sometimes show abnormal pancreas/no stone in bile duct
   - note co-incidence of stones as well as malignancy

2. **clinical presentation, evaluation and management of a patient with acute cholecystitis and acute cholangitis**

   Acute cholecystitis:
   - constant, severe RUQ pain
   - elevated temperature; Murphy's sign; guarding/rebound tenderness
   - leucocytosis
   - U/S: cholelithiasis, with other signs of gall bladder inflammation

   Acute cholangitis:
   - RUQ pain/ tenderness, fever and jaundice (Charcot's triad)
   - acutely ill with abdominal pain; jaundice; fever, chills, light stool; dark urine
   - lab findings: obstructive jaundice picture on LFT's *plus* elevated WBC's. May have elevated INR (vit K)
   - Ultrasound: cholelithiasis with dilated ducts, may see stones in CBD
   - Presence of CBD stones may be detected by USS (uncommon though- usually see dilated CBD only); CT cholangiogram or MRCP. An ERCP is an alternative and also allows access to the bile ducts for retrieval of obstructing calculi.

3. **management of acute gallstone pancreatitis**
   - Fluid resuscitation, monitoring input/output
   - correction of any electrolyte deficits
   - Oxygen +/- respiratory support as needed
   - ABIC's added for severe pancreatitis and septic complications
   - parenteral analgesia
   - determination of severity of disease & prognosis as per criteria

4. **options to treat stones in the gallbladder and the biliary tree:**
   - laparoscopic cholecystectomy/operative cholangiography
   - CBD stones may be removed by exploration of the CBD at time of surgery or ERCP post operatively. Sometimes an ERCP +/- sphincterotomy +/- CBD stent will be performed first and a laparoscopic cholecystectomy later.
   - Open cholecystectomy & common bile duct exploration less common in the laparoscopic era

5. **indications for cholecystectomy and discuss the advantages of the laparoscopic approach over open cholecystectomy**
   - lap chole has replaced open chole as the preferred approach to management of gallstone disease in most elective and many emergent situations
   - post-op hospital stay is usually only 24-48 hours with lap chole
   - due to greater reduction in post-op incisional pain as compared to open procedure
   - also reduced wound complications & reduced respiratory complications
   - more rapid return to normal activity

6. **complications of open and laparoscopic cholecystectomy**
   - main risks with lap chole are related to injury to the bile ducts, intestine, and major vessels
   - rupture of gall bladder and loss of bile and stones into peritoneal cavity
   - if anatomy is obscured because of pathological process or technical difficulties encountered with lap approach then the procedure is converted to an open op through subcostal incision.

7. **principles of post-operative management following cholecystectomy and common bile duct exploration**
   - routine post-op observations. Analgesia
   - early mobilisation and chest physio
   - peritoneal drain tube to be removed within 24-48 hours (lap chole)
   - antibiotics only if purulent fluid encountered.
   - Low fat diet post op
   - monitor LFTs if CBD stone retrieval was undertaken