

Table 2

Common gallstone complications and their management

	Biliary colic	Cholecystitis	Choledocholithiasis	Cholangitis	Pancreatitis
Mechanism	Intermittent obstruction of cystic duct or bile ducts No inflammation or infection	● Acute gallbladder inflammation due to impacted stone in cystic duct ● About 50% have secondary bacterial infection	● Stone passed from gallbladder into bile duct or formed in the bile duct	● Bile duct stone causing bile stasis and infection	● Pancreatic duct obstruction due to gallstones
Symptoms	Intermittent epigastric or right upper quadrant (RUQ) pain lasting < 8 hours	● Consistent epigastric/RUQ pain lasting > 6 hours. ● Often history of past biliary pain ● Nausea and vomiting	● Often asymptomatic ● Otherwise indistinguishable from biliary pain	● RUQ or epigastric pain ● Jaundice ● Fever ● Delirium ● Shock	● Severe epigastric abdominal pain
Clinical findings	Mild epigastric and/or RUQ tenderness	● Murphy's sign ● Fever	● Often normal ● Otherwise indistinguishable from biliary pain	● Fever ● RUQ pain ● Jaundice	● Severe epigastric pain ● Often peritonitic
Blood results	Normal liver function tests (LFTs). If abnormal suggests choledocholithiasis	● Mildly abnormal LFTs even in the absence of a stone ● Raised inflammatory markers ● Significant elevation of ALP/GGT suggests choledocholithiasis	● Abnormal LFTs – usually raised bilirubin/ALP ● ALT 'spike' indicates likely passage of a stone	● Raised inflammatory markers ● Abnormal LFTs - predominantly 'obstructive' (raised ALP/GGT and bilirubin) ● Positive blood cultures	● Raised inflammatory markers ● Abnormal LFTs ● Significant ALT rise indicates likely passage of a stone
Imaging	Abdominal ultrasound (US)	● Abdominal US ● Abdominal computerised tomography (CT)	● Abdominal US ● MRCP ● EUS	● Abdominal US ● MRCP	● Abdominal CT ● MRCP
Treatment	Cholecystectomy	● Antibiotics ● Cholecystectomy ● EUS placed gallbladder LAMS if severe and not a surgical candidate ● Percutaneous transhepatic gallbladder drainage (PTD)	● ERCP or bile duct exploration ● Cholecystectomy	● Antibiotics ● ERCP ● PTD ● Cholecystectomy	● IV fluids ● Nutrition ● ERCP if biliary obstruction or cholangitis ● Treat complications of pancreatitis

EUS = endoscopic ultrasound MRCP = magnetic resonance cholangiopancreatography ERCP = endoscopic retrograde cholangiopancreatography LAMS = lumen apposing metal stents