

بیماری های مجاری صفراوی

دکتر میرسلیم سیدصادقی

استادیار گروه جراحی دانشگاه علوم پزشکی اردبیل

Cholelithiasis

- ▶ 6% to 12% of patients with stones in the gallbladder have st on in CBD.
- ▶ The incidence increases with age(About 20% to 25% of patients above the age of 60)
- ▶ secondary CBD stonesare formed within the gallbladder and migrate down the cystic duct into the common bile duct
- ▶ primary stones :
 - * associated with biliary stasis and infection
 - * and they are more commonly seen in Asian populations.
 - * Biliary stasis leading to the development of primary CBD stones can be caused by biliary strictures, papillary stenosis, tumors, or other (secondary) stones.

Choledocholithiasis

- ▶ May be silent and often are discovered incidentally.
- ▶ They may cause complete or incomplete obstruction, or they may manifest with cholangitis or gallstone pancreatitis.
- ▶ The typical pain caused by a stone in the bile duct is very similar to that of biliary colic caused by impaction of a stone in the cystic duct.
- ▶ Nausea and vomiting are common.
- ▶ Physical examination may be normal, but mild epigastric or right upper quadrant tenderness as well as mild icterus are common.
- ▶ The symptoms may also be intermittent, such as pain and transient jaundice caused by a stone that temporarily impacts the ampulla but subsequently moves away, acting as a ball valve

Choledocholithiasis

- ▶ A small stone may pass through the ampulla spontaneously with resolution of symptoms.
- ▶ the stones may become completely impacted, causing severe progressive jaundice.
- ▶ Elevation of serum bilirubin, alkaline phosphatase, and transaminases are commonly seen in patients with bile duct stones.
- ▶ in about one-third of patients with common bile duct stones, the liver chemistries are normal, particularly if the obstruction is incomplete or intermittent.

Diagnosis

- ▶ Ultrasonography
- ▶ MRCP
- ▶ EUS
- ▶ ERCP
- ▶ PTC

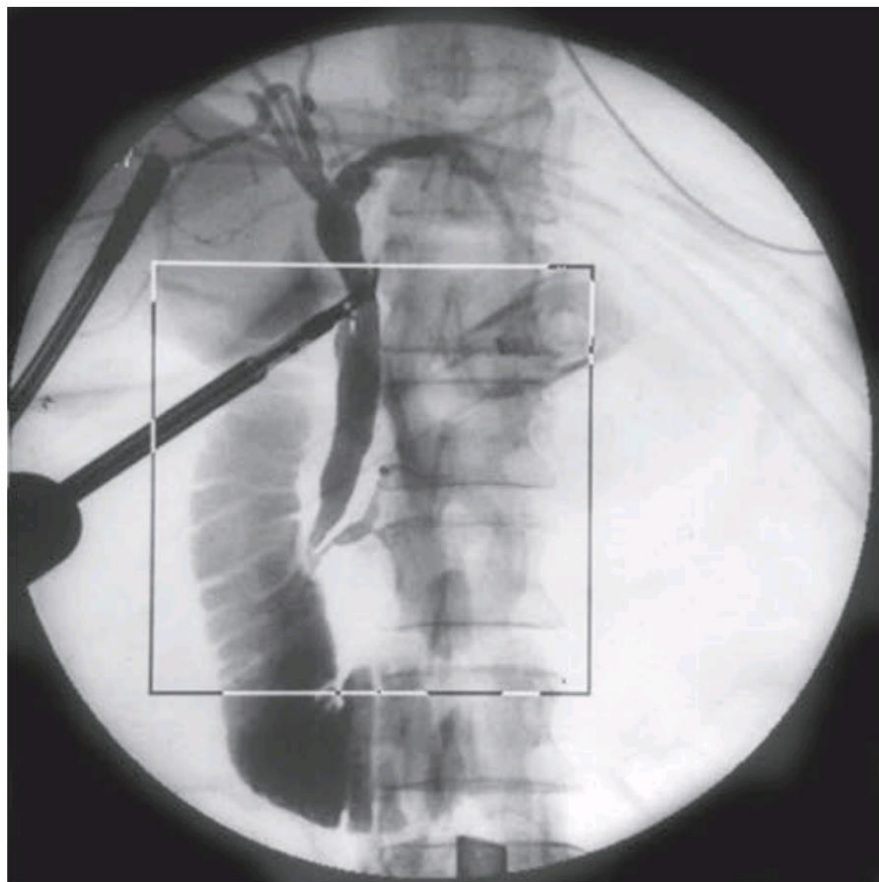
Choledocholithiasis

- ▶ bile duct clearance and cholecystectomy may be safely achieved either with preoperative ERCP followed by surgery or by going directly to surgery with intraoperative cholangiogram and common bile duct exploration to address retained stones.

Choledocholithiasis

► Selective intraoperative cholangiogram:

- * history of abnormal liver function tests, pancreatitis, jaundice, a large duct and small stones,
- * dilated duct on preoperative ultrasonography
- * if preoperative endoscopic cholangiography for the aforementioned reasons was unsuccessful.



A



B

Choledocholithiasis

- ▶ An open common bile duct exploration is an option if the endoscopic and laparoscopic methods are not feasible.
- ▶ If a choledochotomy is performed, primary repair can be considered in large ducts, while smaller ducts should be repaired over a T-tube.
- ▶ In very severe cases, stones impacted in the ampulla may be unable to be cleared by endoscopic approaches or common bile duct exploration (open or laparoscopic). In these cases, transduodenal sphincterotomy can be considered.

Retained or recurrent stones

- ▶ If the stones were left in place at the time of surgery or diagnosed shortly after the cholecystectomy, they are classified as retained. Those diagnosed months or years later are termed recurrent

Cholangitis

- ▶ Hepatic bile is sterile
- ▶ combination of both significant bacterial contamination and biliary obstruction is required for cholangitis development.
- ▶ Gallstones are the most common cause of obstruction in cholangitis.
- ▶ The most common organisms cultured from bile in patients with cholangitis include *E coli*, *Klebsiella pneumoniae*, *Streptococcus faecalis*, *Enterobacter*, and *Bacteroides fragilis*

Cholangitis

- ▶ Charcot's triad
- ▶ Reynolds' pentad
- ▶ the presentation may be atypical
- ▶ Patients with indwelling stents are at particularly high risk for cholangitis, though rarely become jaundiced.
- ▶ Diagnosis: Ultrasonography, CT scanning and MRI

Cholangitis

- ▶ Broad-spectrum IV antibiotics
- ▶ Fluid resuscitation
- ▶ Rapid biliary decompression
- ▶ Patients with cholangitis can deteriorate rapidly and may require intensive care unit monitoring and vasopressor support
- ▶ Overall mortality rate of approximately 5%
- ▶ Elective cholecystectomy approximately 6 weeks after the resolution of their cholangitis

Gallstone Pancreatitis

- ▶ **When pancreatitis is mild and self-limited**, the stone has probably passed. For these patients, a cholecystectomy with intraoperative cholangiogram is indicated as soon as the pancreatitis has clinically resolved.
- ▶ It is strongly recommended that cholecystectomy be performed during the same admission.
- ▶ If gallstones are present obstructing the duct and the **pancreatitis is severe**, an ERCP with sphincterotomy and stone extraction may be necessary.

Gallstone Ileus

- ▶ responsible for less than 1% of all intestinal obstructions.
- ▶ These patients present with symptoms of obstipation, nausea, and abdominal pain.
- ▶ **Diagnosis:**
 - * Plain Films
 - * Ultrasound evaluation
 - * CT
- ▶ surgical enterolithotomy can be accomplished either laparoscopically or open.
- ▶ . Proximal stones can become impacted in the pylorus or proximal duodenum causing gastric outlet obstruction (**Bouveret syndrome**)

MIRIZZI SYNDROME

- ▶ between ages 50 and 70 years
- ▶ type I : external compression of the bile duct
- ▶ Type II : cholecystobiliary fistula , involving less than one-third of the circumference of the bile duct.
- ▶ Type III : cholecystobiliary fistula involving up to two-thirds of the bile duct circumference.
- ▶ Type IV: cholecystobiliary fistula with complete destruction of the bile duct
- ▶ Type V : any type of Mirizzi syndrome with a cholecystoenteric fistula.

MIRIZZI SYNDROME

- ▶ incidence of common bile duct injury can be as high as 17% without preoperative diagnosis .
- ▶ diagnosis can be difficult and varies from 8% to 63%.

▶ Diagnosis:

- * Abdominal ultrasound
- * CT
- * MRCP
- * ERCP: ERCP is the gold standard for diagnosis and therapeutic intervention
- ▶ **laparoscopic cholecystectomy** can be challenging , and the chance of a bile duct injury or conversion are as high as 22% and 30% to 100%.
- ▶ **Open surgery** remains the standard of care for Mirizzi syndrome.

Carcinoma of the Gallbladder

- ▶ Rare malignancy that occurs predominantly in the elderly.
- ▶ Sixth most common GI malignancy
- ▶ It is two to six times more common in females than males, and the peak incidence is in the seventh decade of life.
- ▶ It is an aggressive tumor, with a poor prognosis .
- ▶ The median survival for gallbladder cancer is around 6months
- ▶ Early cancers are identified incidentally following cholecystectomy.

Carcinoma of the Gallbladder

- ▶ The pathogenesis is likely related to a combination of chronic inflammation, infection, genetics, and environmental exposures such as heavy metals and tobacco.
- ▶ up to 85% of patients have gallstones.
- ▶ <3% of patients with gallstones have gallbladder cancer.
- ▶ Larger stones (>3 cm) are associated with a 10-fold increased risk of cancer.
- ▶ Polypoid lesions are also associated with increased risk of cancer.
- ▶ Porcelain” gallbladder is associated with an approximately 10% risk of gallbladder carcinoma.

Carcinoma of the Gallbladder

- ▶ Between 80% and 90% of gallbladder cancers are adenocarcinomas.
- ▶ The histologic subtypes of gallbladder adenocarcinomas include papillary, nodular, and tubular.
- ▶ Squamous cell, adenosquamous, oat cell, and other anaplastic lesions rarely occur.
- ▶ Cancer of the gallbladder can spread through lymphatics, venous drainage, or by direct invasion into the liverparenchyma
- ▶ .

Carcinoma of the Gallbladder

- ▶ Signs and symptoms include abdominal discomfort, right upper quadrant pain, nausea, and vomiting.
- ▶ Jaundice, weight loss, anorexia, ascites, and abdominal masses are less common presenting symptoms.
- ▶ Laboratory findings, if abnormal, are most often consistent with biliary obstruction.
- ▶ Ultrasonography often reveals a thickened, irregular gallbladder wall ($>3\text{mm}$) with hypervascularity or a mass replacing the gallbladder.

Carcinoma of the Gallbladder

- ▶ laparoscopic cholecystectomy is an adequate treatment for T1 lesions
- ▶ T2 tumors: an extended cholecystectomy should be performed. This includes additional resection of liver segments IVb and V, as well as lymphadenectomy of the cystic duct and pericholedochal, portal, right celiac, and posterior pancreaticoduodenal lymph nodes.
- ▶ T3: complete tumor excision with an extended right hepatectomy and possible caudate lobectomy with lymphadenectomy
- ▶ T4 tumors are those that have grown into major blood vessels or two or more structures outside the liver, and they are typically considered unresectable.