

Question 26 – Week of May 3

A 45-year-old woman comes for evaluation of right upper quadrant abdominal pain, fever and jaundice. She had a laparoscopic cholecystectomy 4 weeks prior to evaluation. Her pain was present immediately after discharge but worsened over the week prior to presentation. An abdominal ultrasound revealed small amount of ascites, normal caliber common bile duct and intrahepatic ducts. A HIDA scan suggested bile leak in the RUQ. Antibiotics were started and ERCP was performed. There was no evidence of bile leak on the ERCP. The following statements are true except

- A. Bile duct injuries are more common with laparoscopic than open cholecystectomy.
- B. Injuries that manifest early usually have associated bile leak vs. those that present late manifest as biliary strictures.
- C. HIDA scan is a good non-invasive test for postoperative bile leaks.
- D. ERCP is often diagnostic for bile leaks from injury to the right segmental hepatic duct.
- E. Endoscopic treatment for bile leaks is to provide a low resistance outflow tract for bile flow across the sphincter of Oddi.

Answer: D

Laparoscopic cholecystectomy has a slightly increased risk (0.5%, range 0.3 to 1.5%) of bile duct injuries than open cholecystectomy (0.1-0.2%). The risk is especially increased with prolonged procedures and especially when converted to an open procedure. A HIDA scan is a good non-invasive test for diagnosis of a bile leak but this cannot localize the leak. ERCP is an excellent tool to not only localize but to treat bile duct injuries. However, the injury to the segmental branch of right hepatic duct is an uncommon lesion in which ERCP may often be falsely negative. A high degree of suspicion is needed for the recognition of this entity especially in the setting of a positive HIDA scan. Mild to moderate bile duct injuries can be treated with biliary sphincterotomy with or without a stent placement. This causes a preferential flow of bile across the sphincter of Oddi. More severe injuries need surgical intervention.

References:

1. The dramatic reality of biliary tract injury during laparoscopic cholecystectomy. An anonymous multicenter Belgian survey of 65 patients. *Surg Endo* 1997; 11 (12): 1171-8.
2. Frequency of biliary complications after laparoscopic cholecystectomy detected by ERCP: experience at a large tertiary referral center. *Gastrointest Endosc*. 2007 Feb; 65(2):247-52.
3. Isolated right segmental hepatic duct injury: a diagnostic and therapeutic challenge *J Gastrointest Surg*. 2000 Mar-Apr;4(2):168-77
4. Treatment of bile duct injuries after laparoscopic cholecystectomy. *GUT* 1996; 38: 141-7.