

Duct of Luschka bile leak following Laparoscopic Cholecystectomy

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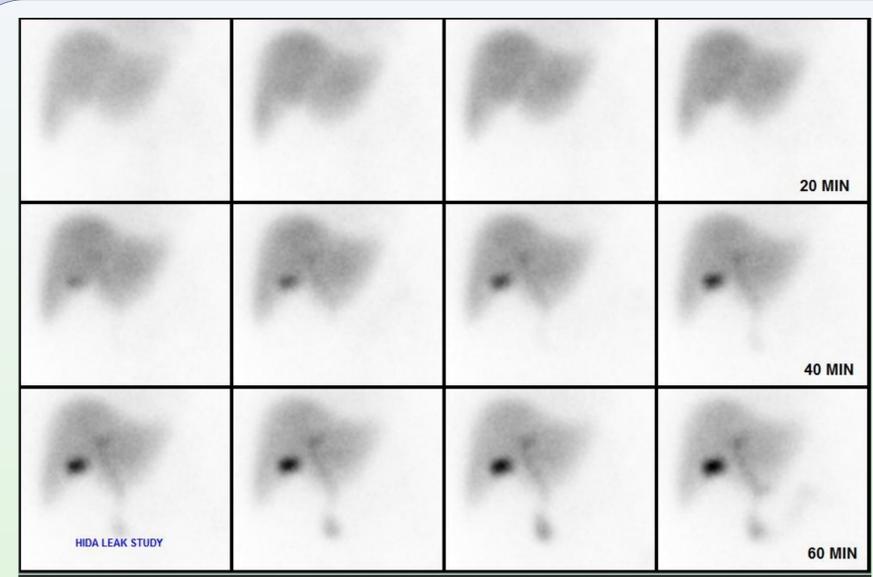
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INTRODUCTION

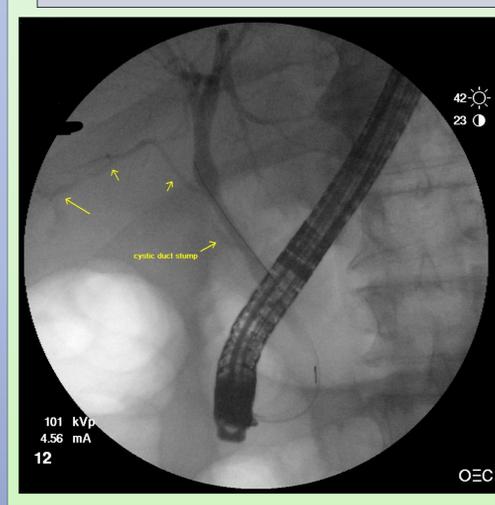
BACKGROUND: Bile leaks are uncommon complications following cholecystectomy and are estimated to occur in 0.5-2.7% of patients. Most frequently, leaks originate from the cystic duct stump or accessory ducts of Luschka. These often have slow leakage and may resolve without intervention. Less commonly there may be common bile duct or hepatic duct injury which is associated with higher bile output and greater complications. The case presented here demonstrates bile leak from an accessory bile duct, also known as a duct of Luschka or subvesical bile duct. These ducts are located in the gallbladder fossa, generally originate from the right hepatic lobe and drain into the right hepatic or common hepatic duct. Other anatomic variants exist which may drain into the cystic duct, CBD or the gallbladder. The frequency of accessory ducts is unknown, with estimates reported at 1% - 50%. The rate of asymptomatic bile leaks from accessory ducts is also unknown. Symptomatic patients may present with pain, fever, signs of peritonitis or sepsis. Imaging with US or CT generally shows fluid within the gallbladder fossa. HIDA may be used in equivocal cases which would show radiotracer accumulation in the area of the bile leak. MRCP has been shown to be highly accurate in diagnosing bile leak. ERCP can both accurately diagnose and treat bile leak. Sphincterotomy and stent placement during ERCP acts to reduce transpapillary pressure. Subsequently, the bile should preferentially flow into the duodenum instead of extravasate at the site of the leak. A percutaneous stent may be placed for drainage of large extra hepatic collections of bile (biloma). Cases where more conservative treatment fails, especially if there is complete bile duct transection a laparotomy is often required.

Presentation

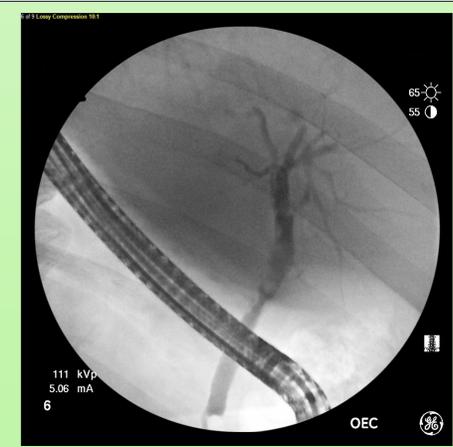
A 59 year old male presented to the emergency department with worsening right upper quadrant pain and nausea. The patient was postoperative day #4 following laparoscopic cholecystectomy for symptomatic cholelithiasis. Past medical/surgical history was otherwise non-contributory. Abdominal CT was significant for a poorly defined fluid/inflammatory collection in the gallbladder fossa. Ultrasound showed a small fluid collection in the gallbladder fossa. Laboratory workup showed a WBC of 12.1 which subsequently resolved. The patient did not meet criteria for sepsis. A subsequent HIDA scan demonstrated radiotracer accumulation within the gallbladder fossa consistent with a bile leak. ERCP was performed the following day which demonstrated contrast extravasation into the gallbladder fossa from from an accessory bile duct. A sphincterotomy and plastic CBD stent was placed for decompression. A follow up ERCP was performed at 2 months did not demonstrate contrast extravasation. The biliary stent was removed at that time.



HIDA scan also performed the same day shows accumulation of radiotracer within the gallbladder fossa confirming a bile leak.



POD #5 Fluoroscopic images obtained during ERCP demonstrates an accessory bile duct which drains into the hepatic duct with contrast extravasation. No extravasation from the cystic duct was demonstrated.



Follow up ERCP at 2 months demonstrates no contrast extravasation.



POD #4 Left: US image demonstrates a 1.45 cm x 3.00 cm hypoechoic collection within the gallbladder fossa. Right: Same day axial CECT image shows an indistinct collection in the same area.

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