Endoscopic Management of Spontaneous Perforation of an Intrahepatic Bile Duct

An obese 79-year-old man was admitted with a six-day history of epigastric and right upper quadrant pain. He was icteric, febrile (38.0 °C), had a tachycardia, and was tender in the right subcostal area. Serum bilirubin and alkaline phosphatase levels were elevated. An ultrasound scan showed a perihepatic collection. A drain was inserted into the right subphrenic space, and 500 ml of bile drained, with clinical improvement. A diagnosis of a spontaneous bile leak was made. At ERCP, a normal-calibre common bile duct (CBD) and common hepatic ducts were imaged. There was a leak from a small duct in the periphery of the liver (Figure **1**, black arrow). In the lower CBD, there was a small stone (Figure **1**, white arrow). A papillotomy was performed, and the stone was extracted. The bile leak closed over a few days.

Spontaneous perforation of the intrahepatic bile ducts was first described by Nawerk (1), and is very rare (1–3). A literature review of the 19 cases published so far showed that these were associated with CBD obstruction due to stones (14 cases), malignancy (four cases), and acute cholecystitis (one case). Only two cases were diagnosed preoperatively using percutaneous transhepatic cholangiography and ultrasound, and all cases were managed by laparotomy. Donald and Ozment (4) used operative cholangiography to identify the leak on the liver surface. Definitive surgery involved either direct suture (4) or wedge resection of the affected liver segment (3). The CBD was explored in all patients, and distal obstruction was relieved.

Our case illustrates that ERCP is the definitive investigation for this rare condition, as it defines the anatomic defect, provides information as to the cause, and allows for minimally invasive biliary decompression, with spontaneous subsequent closure of the controlled biliary fistula.

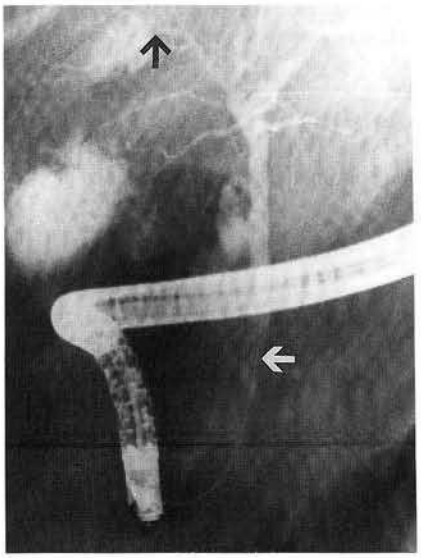

Figure 1: Retrograde cholangiogram, showing a bile leak from an intrahepatic bile radicle.

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References

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