Splenic laceration following ERCP

A 39-year-old otherwise healthy woman presented to the hospital with acute cholecystitis and underwent a laparoscopic cholecystectomy. The procedure was technically difficult due to a severely inflamed gallbladder with adherent omentum. There was poor visualization of the cystic duct and bile duct junction, and a subtotal cholecystectomy was carried out. A surgical drain was left at the previous gallbladder bed. On postoperative day 3, the drain output had increased and changed to bilious drainage. On examination, the patient appeared uncomfortable and there were normal active bowel sounds with appropriate tenderness over the port sites. The fluid from the surgical drain tested high for bilirubin, favoring a bile leak.

Endoscopic retrograde cholangiopancreatography (ERCP) was carried out with the Olympus TJF 160 V (Olympus, Melville, New York, USA). The patient was put in the prone position and the endoscope was advanced into the duodenum with adequate visualization of the papilla. Initial attempts at biliary cannulation selectively cannulated the central pancreatic duct. After repositioning of the cannula the bile duct was deeply cannulated and contrast was injected. The common bile duct (CBD) was prominent at 9 mm and there was extravasation of contrast, originating from the middle third of the CBD immediately over the surgically placed drain. An 8 mm biliary sphincterotomy was done and a 10-Fr by 5-cm biliary stent with a single internal plasticity. Finally, technically difficult surgeries can result in less intra-abdominal adhesions due to previous abdominal surgery. The stretching of the greater curvature of the stomach has been suggested as a mechanism for splenic capsular tears or vascular avulsion of the short gastric vessels. In patients with smaller abdominal cavities or altered anatomy, the stretching of the greater curvature puts the spleen at increased risk for injury. Additionally, the presence of abdominal adhesions due to previous abdominal surgeries can result in less intra-abdominal plasticity. Finally, technically difficult cannulation of the CBD can lead to a prolonged procedure, requiring greater manipulation of the endoscope, causing the transmission of excessive torque. In the present case, we suspect a combination of excessive torque and injury. Additionally, the presence of abdominal adhesions due to previous abdominal surgeries can result in less intra-abdominal plasticity. Finally, technically difficult cannulation of the CBD can lead to a prolonged procedure, requiring greater manipulation of the endoscope, causing the transmission of excessive torque. In the present case, we suspect a combination of excessive torque and injury.

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tion of factors led to the splenic laceration. During the open laparotomy, the patient was noted to have a smaller than usual intra-abdominal cavity (Fig. 2). This probably limited the amount of space available during the normal maneuvers that transmit pressure and force across the greater curvature of the stomach. Delayed diagnosis is common in post-ERCP patients with splenic trauma, because of the lack of awareness of this rare complication. The diagnosis requires a high index of suspicion and splenic injury should be considered when signs of cardiovascular instability, abrupt decrease in hemoglobin, or occult hemorrhage develop following endoscopic procedures.

References
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7 Wu WC, Katon RM. Injury to the liver and spleen after diagnostic ERCP. Gastrointest Endosc 1993; 39: 824–827

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Fig. 2 Computed tomography (CT) scan showing a small intra-abdominal cavity.