

Modified Rendezvous Biliary Procedure Involving the Hepatobiliary Surgeon, Endoscopist, and Interventional Radiologist: A Novel Solution for Complex Bile Duct Injuries



Sandeep Anantha Sathyanarayana, MD, Calvin Lee, MD, Igor Lobko, MD, Anthony Febles, MD, Juan R Madariaga, MD, PhD, FACS

Bile duct injury is a well-known complication of laparoscopic cholecystectomy. It can be a dreadful complication resulting in biliary peritonitis, cholangitis, and sepsis. Early diagnosis, bile leak control, and repair of the injury are crucial in preventing further complications; injuries are often missed, however, leading to a delayed presentation. Successful repair of complex bile duct injuries requires transfer to a tertiary care center equipped with a hepatobiliary surgeon for definitive surgery. In certain cases with extensive injury to the biliary ductal system, a primary biliary enteric or end-to-end bile duct anastomosis may not be feasible and may be deferred until the inflammation resolves. In these situations, external biliary drainage is performed. However, this does not provide a physiologic conduit for bile flow. We describe an alternative procedure in which physiologic bile flow can be attained while the inflammatory process subsides to allow for a subsequent bilioenteric anastomosis. To our knowledge, there is no evidence of this procedure reported in the literature and we discuss 2 patients with extensive (Bismuth type E4) biliary ductal injuries with different clinical scenarios who underwent successful modified rendezvous procedures.

METHODS

A retrospective review of prospectively collected data was performed on 2 patients with complex bile duct injuries from 2011 to 2012 at a tertiary care hospital equipped with a hepatobiliary surgeon, interventional radiologist, and an endoscopist.

Disclosure Information: Nothing to disclose.

Received April 7, 2014; Revised June 3, 2014; Accepted June 6, 2014.
From the Departments of Surgery (Anantha Sathyanarayana, Madariaga), Gastroenterology (Lee), and Interventional Radiology (Lobko, Febles), Hofstra NSLIJ-School of Medicine, New York, NY.
Correspondence address: Sandeep Anantha Sathyanarayana, MD, 270-05 76th Ave., New Hyde Park, NY 11040. email: dr.sandeep.as@gmail.com

RESULTS

Patient 1

A 27-year-old woman with no significant past medical history underwent a laparoscopic cholecystectomy for biliary colic at a local community hospital. Her postoperative course was complicated with a bile leak suspected to be from the cystic duct stump. She was transferred to our institution for definitive management of biliary peritonitis. An MRI scan demonstrated a bile leak from the common hepatic duct free into the peritoneal cavity. On postoperative day 2 from the laparoscopic cholecystectomy, she underwent a laparotomy, and a bile leak was noted from the hepatoduodenal ligament. The extent of the thermal coagulation injury involved missing segments of the common bile duct (CBD) and the common hepatic duct, exposing the right and left branches of the hepatic ducts in the porta hepatis proximally and a shriveled CBD stump distally (Fig. 1). Given the extensive thermal biliary ductal injury and separation of the right and left hepatic ducts, a primary reconstruction was deemed not ideal. At this point, the modified rendezvous

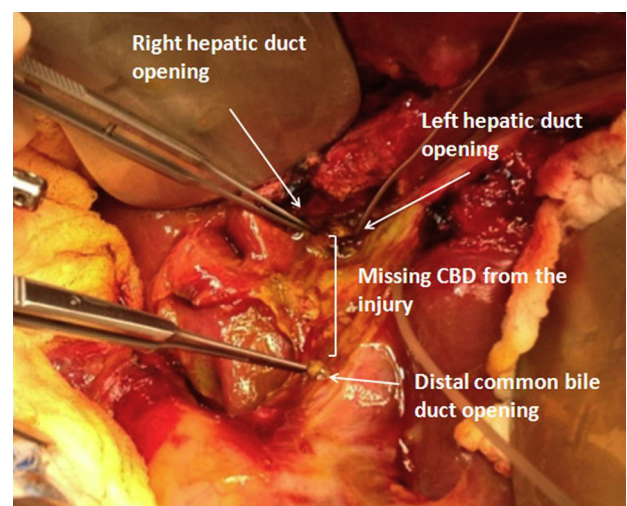


Figure 1. Intraoperative picture demonstrating the extent of injury with a distinct loss of common bile duct (CBD) length.

Abbreviations and Acronyms

CBD = common bile duct

ERC = endoscopic retrograde cholangiography

PTC = percutaneous transhepatic cholangiography

procedure was performed to control bile leak and provide forward flow of bile into the intestinal tract. The biliary probes were inserted retrograde into the right and left hepatic ducts from the porta hepatis through the liver parenchyma. A biliary catheter (Cook Medical, 10.2 Fr) was inserted transcutaneously over the biliary probe and was drawn into the porta hepatis. These catheters were then advanced into the duodenal lumen via the distal CBD stump, confirmed by upper endoscopy (Fig. 2). The catheter was secured distally to the CBD with a silk tie, but not proximally because the hepatic ducts were friable. A completion cholangiogram was performed demonstrating antegrade flow of contrast without any evidence of leak.

Four weeks postoperatively, a cholangiogram was performed demonstrating a pseudo wall formation around the catheters without any biliary extravasations. Eight weeks later, she underwent a definitive Roux-en-Y hepaticojejunostomy reconstruction to the right and left hepatic ducts. Her immediate postoperative course was insignificant and she was discharged home. Two years after her Roux-en-Y hepaticojejunostomy, she presented with cholangitis secondary to a stricture at the right hepaticojejunostomy requiring a balloon dilatation by the interventional radiologist.

Patient 2

A 52-year-old man with a history of diabetes mellitus was admitted to our hospital with acute cholecystitis. He

underwent a laparoscopic converted to open cholecystectomy secondary to bleeding from an un-named arterial branch. His postoperative course was complicated by jaundice and a bile leak from the common hepatic duct diagnosed by magnetic resonance cholangiopancreatography. He underwent endoscopic retrograde cholangiography (ERC) to stent the suspected leak but this was technically unsuccessful. His biliary leak progressed to peritonitis. On postoperative day 10, he underwent a laparotomy, and 4,500 mL of cloudy bilious fluid was evacuated. After adhesiolysis, an active bile leak was noted from the porta hepatis. A damage control procedure had to be performed given his septic shock. Multiple drains were placed in the right upper quadrant to control biliary spillage, and the abdomen was closed temporarily with a vacuum-assisted dressing; the patient was then transferred to the ICU. At this point, the extent of biliary injury could not be defined given extensive scarring from the inflammatory process. The interventional radiologist placed a fluoroscopic-guided, percutaneous, transhepatic cholangiogram (PTC) catheter with its tip in the hepatic duct confluence to control further bile leak.

On resolution of sepsis (4 weeks after laparoscopic cholecystectomy), a planned re-exploration of the abdomen and the hepatoduodenal ligament was performed. The extent of injury was apparent: the bile duct was transected with the proximal opening just below the hepatic duct bifurcation and the distal CBD stump was scarred down and was unable to be visualized. The patient was also found to have a concomitant replaced right hepatic arterial injury originating from the superior mesenteric artery. At this point, the modified rendezvous procedure was performed because primary biliary reconstruction would not be feasible for multiple reasons: severe scarring and inflammation in the hepatoduodenal ligament, a large anatomic gap

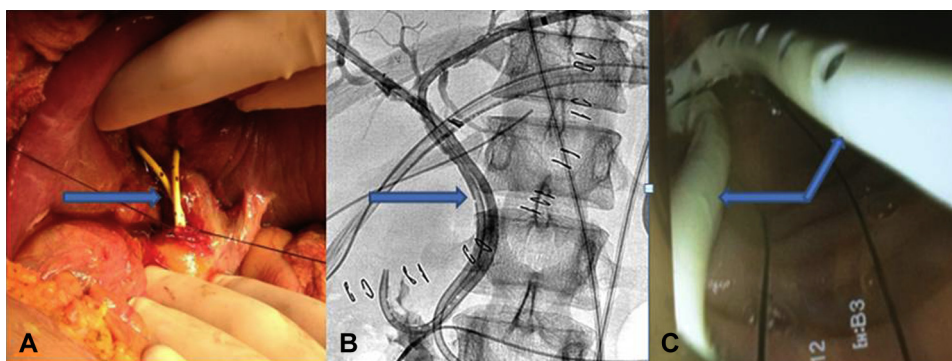


Figure 2. Patient 1. (A) Intraoperative picture demonstrating the modified rendezvous catheters bridging the missing common bile duct (arrow). (B) Cholangiogram with modified rendezvous catheters (arrow) in situ without any evidence of contrast extravasation. (C) Endoscopic view of the modified rendezvous catheters (arrow) in the duodenum.

Download English Version:

<https://daneshyari.com/en/article/4291509>

Download Persian Version:

<https://daneshyari.com/article/4291509>

[Daneshyari.com](https://daneshyari.com)