รายงานผู้ป่วย

การรักษาภาวะบาดเจ็บของท่อทางเดินน้ำดีภายหลังอุบัติเหตุตับฉีกขาดระดับรุนแรง: รายงานผู้ป่วย 1 ราย

กิตติศักดิ์ วังสถาพร, พ.บ., ธนพล สุภาผล, พ.บ.
กลุ่มงานศัลยกรรม โรงพยาบาลพระปกเกล้า

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บทคัดย่อ

ภาวะท่อทางเดินน้ำดีบาดเจ็บจากอุบัติเหตุแบบกระทบกระแทกบริเวณช่องท้อง เป็นภาวะที่พบได้น้อยและผลการรักษามีหลายรูปแบบ รายงานผู้ป่วยชายอายุ 21 ปี ได้รับอุบัติเหตุกระแทกที่ศีรษะและบริเวณหน้าท้อง ตรวจเอกซเรย์คอมพิวเตอร์พบว่ามีภาวะตับฉีกขาด ได้รับการรักษาแบบประคับประคอง หลังจากนอนโรงพยาบาล 6 วัน ผู้ป่วยมีอาการไข้ ตัวตาเหลืองขึ้น ส่งตรวจวินิจฉัยเพิ่มเติมสงสัยภาวะภาวะน้ำดีรั่วจากตับภายหลังการบาดเจ็บ ผู้นิพนธ์พยายามรักษาภาวะน้ำดีรั่วโดยการส่องกล้องทางเดินอาหารเพื่อใส่ท่อระบายในท่อน้ำดี แต่ยังมีเลือดและน้ำดีค้างอยู่ในช่องท้อง จึงตัดสินใจใส่ท่อระบายเลือดและน้ำดีผ่านผนังหน้าท้องเป็นผลสำเร็จ ทำให้น้ำดีหยุดรั่ว รวมถึงระบายเลือดและน้ำดีในที่สุด และสามารถหลีกเลี่ยงการผ่าตัดในผู้ป่วยรายนี้ได้

คำสำคัญ: ท่อน้ำดีบาดเจ็บจากอุบัติเหตุ, อุบัติเหตุช่องท้องแบบกระทบกระแทก, ภาวะบาดเจ็บของตับ, น้ำดีรั่ว, การรักษาโดยการส่องกล้อง

CASE REPORT

Management of Traumatic Bile Duct Injury after Complex Liver Injury

Kittisak Wangsathaporn, M.D., Tanapon Supapon, M.D.
Department of Surgery, Prapokkloa Hospital Chantaburi

ABSTRACT

Bile duct injuries from blunt abdominal trauma are rare, and bile leak after a liver injury is uncommon, especially in complex liver injury. Endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy and biliary stent insertion effectively treats bile leaks after liver injury. However, ERCP is not always successful, resulting in bilious ascites. We report a case with persistent bile leak after a complex liver injury successfully treated by ERCP and subsequently percutaneous drainage to internal biliary stent placement and intraperitoneal bile drainage.

KEYWORD: traumatic bile duct injury, blunt abdominal trauma, hepatic injury, bile leakage, endoscopic treatment

INTRODUCTION

Bile duct injuries from blunt abdominal trauma are rare. Extrahepatic biliary tract injuries occur in 3-5% of all abdominal trauma victims1. The incidence increases to 14-22% in complex liver injury (Association for the Surgery of Trauma Organ Injury Scale: AAST-OIS grade 4 and 5)[1]. Endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy and biliary stent insertion has been accepted as an effective treatment of bile leak after liver injury with a high success rate 90-100%, thereby operative treatment can be avoided. Nevertheless, sometimes the ERCP is inadequate biliary drainage because of retained intraperitoneal bile leakage or biloma; consequently, subsequent alternative interventions are mandated. Percutaneous interventional procedures aid in characterizing a biloma and its initial management via drainage of fluid collections. In this article, the authors report a complex liver injury patient with persistent bile leak who underwent initial successful ERCP and simultaneously percutaneous drain procedure for intraperitoneal bile leak drainage.

Case presentation

A 21 male suffered a blunt abdominal in a road traffic accident (for example, in poor weather, poor visibility, or high pedestrian activity). He visited an emergency room at the local hospital. On arrival, he had a Glasgow Coma Score of 15 and was hemodynamically stable after adequate fluid resuscitation. An abdominal CT scan with intravenous contrast showed traumatic liver injury at the right lobe (AAST-OIS grade 4) (Figure 1). This patient was admitted. Trauma On hospital day 7, the abdomen was distended, and the patient developed a low-grade fever. A repeat CT scan of the abdomen showed a sizeable well-circumscribed margin fluid collection in the subhepatic region, size 8*15 cm, and the patient was transferred to our hospital for definitive surgical treatment. (Figure 2)

Figure 1 Shows laceration of the right lobe liver

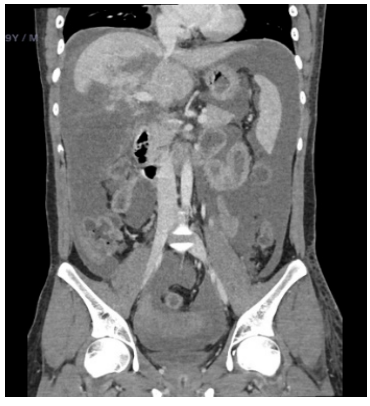

Figure 2 Shows an extensive well-circumscribed margin fluid collection in the subhepatic region

We designed further investigation, especially Magnetic Resonance Cholangiopancreatography (MRCP) to evaluate the biliary tree injury. The initial MRCP at our institution revealed of the common hepatic duct at below confluence level with biloma at subhepatic to the right and left paracolic gutter region (Figure 3).

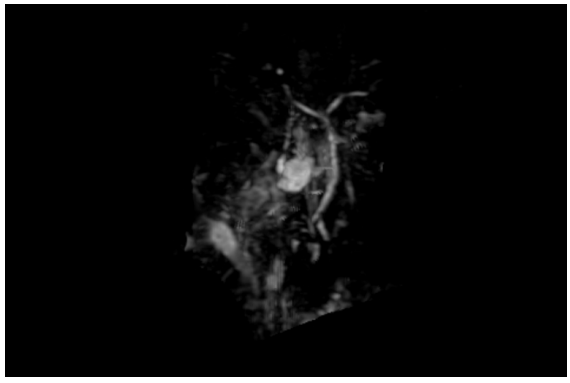

Figure 3 Shows an incomplete of the common hepatic duct at below confluence

ERCP was performed for evaluation and internal biliary stent placement (Figure 4-5). Once a bile leak from the right posterior intrahepatic duct and common hepatic duct (CHD), and common bile duct (CBD) size 5 mm was demonstrated on cholangiogram, a 10-Fr transpupillary straight-type biliary stent length 10 cm was placed. A biliary sphincterotomy was performed routinely for stent insertion. After the ERCP finish, a subhepatic and paracolic gutter collection was then aspirated under ultrasound guidance. The surgeon drilled the biloma percutaneously via a pigtail catheter placed at the right and left abdominal wall. A nasogastric tube was also inserted endoscopically to provide enteral nutrition.

After the procedure, the bile leak gradually stopped, and the pigtail catheter was removed on hospital day 142. The patient was discharged on hospital day 147 and was scheduled for a repeated ERCP and stent removal in the next 3 months

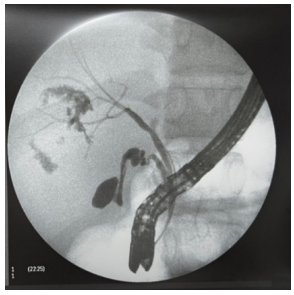

Figure 4 Shows contrast leakage and incomplete transection of common hepatic duct

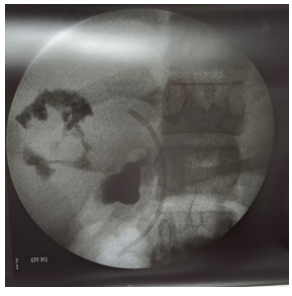

Figure 5 Shows the internal biliary stent

DISCUSSION

Management of bile leakage following blunt liver injury driven by the type and extent of the biliary injury requires multidisciplinary cooperation between interventional radiologists, endoscopists, and hepatobiliary/transplant surgeons. Nonoperative treatment and angiography with selective embolization are crucial for hemorrhage control. ERCP with biliary stenting has become essential in diagnosing and treating post-traumatic bile leaks. Biliary complications, such as biloma and bile peritonitis, can present days to weeks after the initial trauma, often with nonspecific progressive symptoms, including vague abdominal pain, malaise, nausea, vomiting, and anorexia[2]. Rarely will patients present with peritoneal signs indicating acute. These symptoms can all be masked or misinterpreted, given the multiple organ injuries often present in blunt trauma patients. MRCP is helpful in the diagnosis of bile leaks in patients with subtle clinical presentations, especially those undergoing non-operative management[2]. The management options for extra/intrahepatic bile leak after liver injury consists of observation, percutaneous drainage, biliary stent placement from the intrahepatic bile duct to the ampulla via ERCP or percutaneous transhepatic approach, and operative treatment. Selection of the treatment options depends mainly on the patient's condition, the adequacy of drainage, and the facility of the institution[2].

ERCP with sphincterotomy and biliary stent insertion is a safe and effective method of managing extra/intrahepatic bile leak after liver injury. Endoscopic treatment aims to decrease the pressure gradient and diversion of bile flow within the biliary tract to allow for healing. However, it interventional treatments have a vital role in diagnosing and managing bile leaks. Percutaneous interventional procedures aid in characterizing bilious fluid and its initial management drainage of fluid collections. To our knowledge, this report combines endoscopic biliary drainage and percutaneous treatment in managing a patient with bile leak after liver injury. This procedure requires cooperation between trauma surgeons and endoscopists. Conventionally, bile duct injury was treated by surgical exploration. In recent decades, however, there has been an increase in endoscopic intervention to treat bile duct injury. In a hemodynamically stable patient, endoscopic intervention is considered the first-line treatment for bile duct injury. Interventional radiologists, again, emphasize the need for a multidisciplinary team.

CONCLUSION

Traumatic bile duct injury is a rare yet severe consequence of blunt trauma. Management of bile leak after liver injury demands a multidisciplinary approach comprising ERCP with biliary stent placement and percutaneous biloma drainage in managing patients with extensive traumatic hepatic injury with intrahepatic bile leaks. The severity of an injury and the site of a bile leak does not preclude endotherapy as a management option in these patients. The results of our case and those of previously published series suggest that ERCP should be considered a first-line therapy for traumatic bile leaks.

Conflicts of interest: None

Financial support: None

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