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A rare case of hepatic duct injury from blunt abdominal trauma

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Background: A 25 year-old male was brought to the emergency room following an apparent suicide attempt by jumping from the fourth floor.

Case Report: Patient had a large abdominal laceration in the right upper quadrant (RUQ). CT scan showed a sub-scapular hematoma of the liver. Due to the repeated episodes of hypotension, a laparotomy was performed and the left hepatic artery was ligated while the ductal injury was managed with a Roux-en-Y left hepatic jejunostomy and stent. Bile leakage was resolved post-operatively by day 5 and the patient was discharged home on day 13 after clearance from psychiatry.

Conclusions: While non-iatrogenic extrahepatic biliary trauma is rare, a high degree of suspicion is essential, especially in cases like the one discussed in this report. Diagnosis can be difficult in patients undergoing observation.

Key words: gall bladder • abdominal laceration • jejunostomy • hepatic artery

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Background

Extra hepatic biliary duct injury, though uncommon, requires a high degree of suspicion at diagnosis and aggressive management [1–4]. The majority of such injuries occur as complications (albeit rare) of the 750,000 cholecystectomies performed in the United States each year [5]. At first glance, it appears that injury to the biliary tract secondary to external trauma can be managed similar to an iatrogenic injury. Although this is generally true, it is important for trauma surgeons to recognize critical differences. In most patients, biliary injury is associated with other injuries that may be of a higher priority. Children constitute a significant percentage of the patients. Delayed diagnosis in all age groups is common, while missed diagnosis at the initial consult is also a common occurrence. Injury to other structures in the porta hepatis, small sized ducts and the problems of associated injury makes the repair technically challenging. Appropriate and quick management is important to avoid morbidity and mortality.

In the past, most of the injuries to the extra hepatic biliary system were secondary to blunt abdominal injury, particularly to the right upper quadrant (RUQ). The first such report was published in 1861 by Drysdale [6]. Several theories have been postulated to explain the mechanism of injury. However, none of this would change the management options. The most common site of transection from blunt trauma is in the common bile duct (CBD), just as it enters the pancreas.

Case Report

A 25 year-old male jumped from the fourth floor in an apparent suicide attempt following drug abuse. On the way down, the patient hit a railing. No loss of consciousness was reported, but he sustained a large abdominal laceration. Upon arrival in the emergency room (ER), patient had an unstable blood pressure, which responded well to intravenous (IV) fluid boluses. Patient was inappropriate and erratic but followed commands. Physical examination showed epigastric ecchymoses and a large curvilinear avulsion laceration to the left abdomen. Rectal examination was negative with an intact sphincter. Once the patient responded to IV boluses, he was taken to radiology where a CT scan was performed, which showed a sub-Scapular liver hematoma. Due to the repeated episodes of hypotension, the patient was taken to the operating room (OR) for an exploratory laparotomy.

At surgery, the following findings were noted:

a. Contusions, and avulsion of gall bladder and bleeding liver bed,
b. Bile leakage from left hepatic duct transection,
Conclusions

In the case of injury to the gall bladder, a cholecystectomy is preferred. Bile duct injury can be corrected primarily or using biliary-enteric anastomosis. This latter procedure is tension free and preserves the blood supply.

References:

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