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REVIEW ARTICLE

TEAR OF COMMON BILIARY DUCT WITH AVULSION OF PORTAL PLEXUS IN BLUNT ABDOMINAL INJURY

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ABSTRACT

Common bile duct injury is rare and chalanging in blunt trauma. It occurs only in 0.5% cases under going laparotomy for acute trauma. We present a case of blunt abdominal trauma of common biliary duct injury with portal vain avulsion. We discuss its review, clinical presentation, diagnosis, and management of this case. Now in the age of advancement in radiology as well as other diagnostic tool it will be managed.

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INTRODUCTION

Common bile duct (CBD) injury is rare and challenging in blunt trauma (Ivatury *et al*., 1985). Avulsion of the portal vain in common bile duct is even less common. The duct is usually thin, rendering the repair difficult. The first bile duct rupture was reported by Wainwright in 1799 (Simstein, 2000). In fact extrahepatic biliary tract injuries occurs in 3% to 5% of all abdominal trauma, associated with 85% by penetrating wound while remaining 15% resulting from blunt trauma. A patient with avulsion of portal vain, common bile duct injury after a blunt abdominal trauma is described.

Case presentation

A 32 year old male patient involved in a road traffic accident (RTA) on highway was referred to our hospital for the management of blunt abdominal trauma by a road traffic accident. He was admitted in government hospital for two days then shifted to our hospital. On arrival patients condition was very poor, he had Glasgow Comma Score of 15, low Blood Pressure, body cold, and distended abdomen with pain.

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Laboratory values showed haemoglobin level 10.8 gm%, total serum bilirubin 3.8gmg%, aspartate aminotransferese (AST) 108 IU/L (normal value < 40 IU/L), alanine aminotransferese (ALT) 65 IU/L (normal value < 40 IU/L) and prothrombin time (PT) was 31 sec (normal value 12-14 sec). At the time of admission computed tomography of his abdomen revealed a little amount of free liquid in abdominal cavity. The liver and spleen were intact. A follow-up CT was perform on 30/01/2016 showed marked amount of free liquid in peritoneal cavity and probable disinsertion of papilla of water. Surgical procedure was performed on 30/01/2016. Laparotomy was done with mid line incision extended to ride sided subcostal incision. During procedure the CBD was found to be avulsion of portal vein, no other injury was seen.

Harmoperitonium with silious peritoneum caused portal hepatic injury with CBD transient cut injury. Portal hepatic vein ruptured and K-9 catheter tube was inserted into CBD for evacuation of blood clots. The abdominal cavity was washed and a drainage tube was place into pelvic and right hepatic duct. Patient was shifted to post operative ward after bandage and packing. The post-operative recovery was uneventful and the patient was discharge after 10 days. Patient was advise to take Inj. Agumentine, Inj. Monocef, Inj. Aciloc 8 hourly, Inj. Coglueonate daily and tab. Metrogyl 8 hourly for the period of

hospital stay. A two month follow-up revealed normal physical and biochemical examinations.

DISCUSSION

Common bile duct injury is uncommon. It occurs only about 0.5% of all patients undergoing laparotomy for acute trauma (Posner *et al*., 1985). CBD injury occurs frequently in three areas of relative fixation of the biliary tract 1) the origin of the left hepatic duct, 2) the bifurcation of the hepatic ducts, 3) the pancreaticoduodenal junction (Feliciano *et al*., 1994). The mechanism includes increased intraductal pressure, shearing, compression against the spine and ischemia. CBD injuries in motor vehicle accidents are often related to the safety belt, especially when poorly positioned (Scott *et al*., 2007). The diagnosis of common bile duct injury is often more difficult with incomplete injuries that result in a delayed presentation. These cases may present days to months postinjury, with nausea, vomiting, jaundice and abdominal pain (Yoon *et al*., 1998). Avulsion of the intrapancreatic bile duct can be rarely associated with duodenal rupture or avulsion of gastrouodenal artery (Ito, 1993).

The initial injury may be followed by shock of varying. The period of shock and pain may last for only a few hours and is often followed by a symptom-free interval. This interval may vary from several hours to 60 days. Some time neither during explorative laparotomy the lesion can be identified if bile leakage is contained and there is no bile present at exploration (Kaul, 2002). The surgical approach is the gold standard for this but it is necessary to consider the type of trauma, associate lesions, systemic condition and time of lesion (>24 hours: worse result). The sole intraductal drainage in complete sections of the CBD is the simplest option; however, it requires one or more subsequent interventions, beside the problems caused by external bile derivation. The end to end anastomosis has a high rate of stenosis (55%%) (Jurkovich *et al*., 1995).

Conclusion

Avulsion of intra hepatic vain and CBD rapture is rare in blunt abdominal trauma and is rare described only anecdotally in literature.

As for the other lesions of this type, the corner stone of the treatment, when the diagnosis is delayed or the patient is unstable, is immediate biliary diversion and definitive repair after complete resolution of biliary peritonitis, pancreatitis and sepsis. The advancement in radiology both as a diagnostic and as an interventional tool, together with the improvement in intensive care mean that more and more blunt abdominal trauma are now managed. This paper is meant to the future management of blunt abdominal trauma.

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