Avulsion of common bile duct – case report

Avulsão da via biliar principal – relato de caso

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INTRODUCTION

The section of the common bile duct (CBD) in blunt trauma injury is rare and challenging. The duct is usually thin, rendering the repair difficult. The Roux-en-Y hepaticojejunostomy is considered the appropriate treatment [1]. Good results in this procedure involve, however, not only experience and skill, as the assisting surgeons, sutures, instruments and lighting requirements. Unfortunately, there is a lack of material and human resources; trauma is attended in invariably adverse conditions. The authors propose a simple and within-reach alternative for any general surgeon.

CASE REPORT

A male, sixteen-years-old patient was involved in a car crash on the highway (he was sleeping in the back seat with the seat belt fastened). At laparotomy, splenectomy was performed, and we chose not to explore a periduodenal hematoma. Reoperation on the ninth day found coliperitoneum with avulsion of the common bile duct just above the pancreas. The abdominal cavity was washed and a Nelaton 4F catheter was inserted into the choledocus stump. With fever peaks and leukocytosis, the patient was referred to us on the third postoperative day. On admission, computerized tomography (CT) revealed a pelvic collection with no window to puncture. We opted for reoperation, in which the collection was drained and a perioperative cholangiography (POC) was carried out, showing a patent cystic duct (Figure 1). We then performed a Roux-en-Y cholecystojejunostomy, maintaining the Nelaton catheter in the common bile duct. There were no complications. On the seventh postoperative day, the catheter was closed and the patient reported that feces returned to darken. A cholangio-MRI held on the tenth postoperative day showed good bile flow through the anastomosis (Figure 2). The catheter was then removed and the patient was discharged in good condition. At the four-month return, he remained asymptomatic, with normal

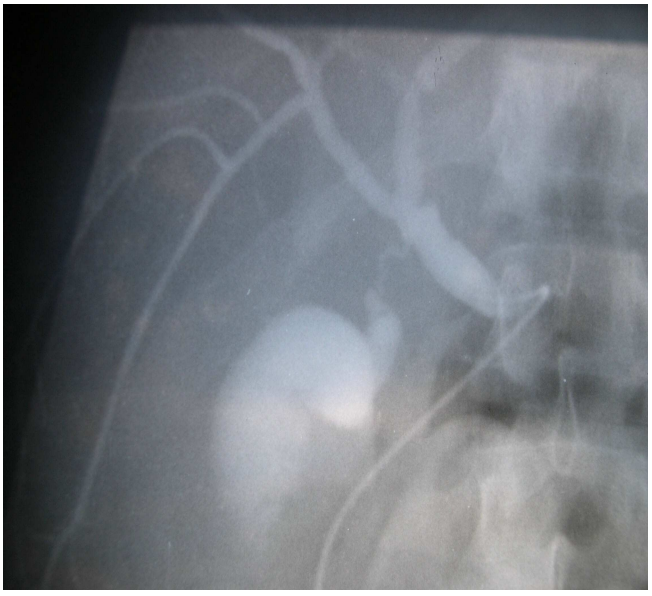

Figure 1 - *Perioperative cholangiography showing patency of the cystic duct.*

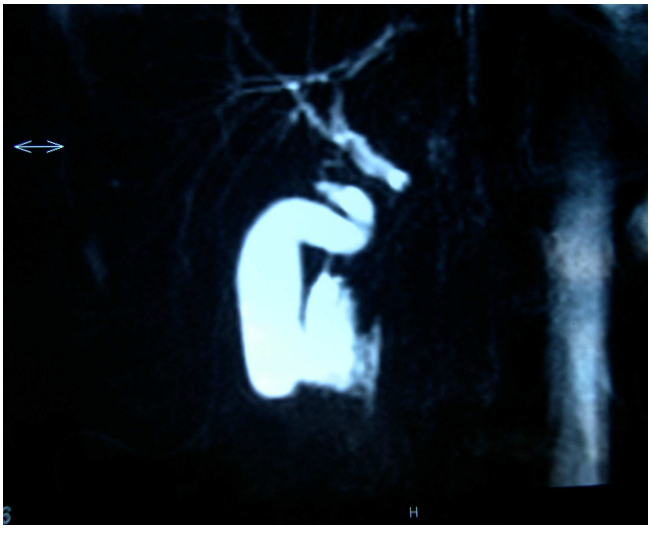

Figure 2 - *Cholangiography showing good transit through the anastomosis.*

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laboratory tests and an ultrasound showing a dilated common bile duct (1.3 cm).

DISCUSSION

Common bile duct (CBD) injuries after blunt abdominal trauma are rare, usually occurring at the attachment points, 82% occurring at the upper edge of the pancreas[2]. 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 [3].

When it comes to isolated CBD lesions, diagnosis is late, averaging 18 days [4]. If there are injuries associated with surgical indication, the diagnosis is made at laparotomy, the exploration of any periduodenal hematoma being necessary.

Although there are reports of percutaneous and endoscopic treatments, the surgical approach remains the gold standard, but it is necessary to consider the type of trauma, associated lesions, systemic condition and time of lesion (> 24 hours: worse results). The sole intraductal drainage in complete sections of the CBD is the simplest option; however, it requires one or more subsequent interventions, besides the problems caused by external bile derivation. The end-to-end anastomosis has a high rate of stenosis (55%) [2]. Roux-en-Y hepaticojejunostomy is considered the best option, with stenosis rate of 3.6% [2]. However, it is a complex procedure, the results varying with the surgical team and the patient's condition.

In this case, the reduced diameter of the CBD, the long time elapsed since injury and the inflammation caused by blood and bile in the hepatic pedicle discouraged hepaticojejunostomy. One option would be to keep the external shunt for a few months until normalization of inflammatory sites. This would be our conduct when we received the patient, but rapprochement was necessary to drainage of collections.

At laparotomy, we found the hepatic pedicle edematous and friable, but the gallbladder and jejuna loops in good condition. Thus, it was possible to safely perform a cholecystojejunostomy, the way that has already been published [5].

It is worthy recalling that the criticism about the cholecystojejunostomy is that ligation of sectioned common bile duct stump usually involves the cystic duct (with intramural path or low implantation) and leads to an nonfunctioning cholecystojejunal anastomosis. We consider the criticism founded and we emphasize that the realization of POC is very important. Once proven the patency of the cystic duct, the cholecystojejunostomy becomes a valuable option in the management of these cases, very simple and safe to be disregarded. As in this case, after the cholecystojejunostomy the CBD dilates, making a future anastomosis safer.

A B S T R A C T

Common bile duct disruption from blunt trauma is very rare. Management, diagnosis and therapy by a non-specialist surgeon can be difficult. We describe a bile duct injury after a motor vehicle crash in a young male, treated with cholecystojejunostomy at his third laparotomy. We also briefly review some diagnostic aspects and therapeutic options from the literature.

Key words: *Bile ducts. Common bile duct. Abdominal injuries. Surgical procedures, operative. Biliary tract surgical procedures.*

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