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A case report of bloody pancreatitis

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ABSTRACT

INTRODUCTION: Haemobilia is an uncommon entity even though its frequency has increased with hepato-biliary instrumentation and procedures. It can be associated with obstructive jaundice and pancreatitis (Green et al., 2001) [1]. Haemobilia following cholecystectomy has frequently been reported in association with hepatic artery pseudo-aneurysm (Curet et al., 1981; Ribeiro et al., 1998) [2,3]. The authors wish to report a case of haemobilia due to a porto-biliary fistula presenting as acute pancreatitis.
PRESENTATION OF CASE: A 34-year-old female admitted as an urgency with upper abdominal pain for 3 weeks. She had, in the preceding days, been admitted to another hospital with acute pancreatitis. She reported an episode of rectal bleeding during that admission and possessed an abdominal ultrasound scan (USS) and magnetic resonance cholangiopancreatography (MRCP) which suggested the presence of a biliary tract neoplasm. The patient was also found to be jaundiced and the diagnosis of a porto-biliary fistula was made at operation.
CONCLUSION: The diagnosis in this case was found to be a portal vein-biliary tract fistula occurring post cholecystectomy. An awareness of the spectrum of complications related to modern surgical techniques may aid timely diagnosis and the achievement of favourable outcomes.

1. Introduction

Haemobilia is an uncommon surgical entity and the classical presentation is a triad of biliary colic, jaundice and gastrointestinal bleeding accounts for a minority of cases [1]. This can make the diagnosis of the condition an elusive one. A history of blunt or penetrating trauma, biliary tract or hepatic instrumentation can suggest the diagnosis. Haemobilia has been reported as a complication of laparoscopic cholecystectomy, occurring as a result of the

development of a hepatic artery aneurysm [2,3]. Pancreatitis secondary to haemobilia is also a rare condition and in conjunction with upper gastrointestinal bleeding indicates a critically ill patient. This case report has been prepared in accordance with the SCARE statement: Consensus Guidelines Agha et al. [4].

2. Presentation of case

A 34-year-old female presented to our institution with a three-week history of upper abdominal pain. She also complained of nausea and anorexia as well as having had one episode of rectal bleeding. Her surgical history included laparoscopic cholecystectomy and ovarian cystectomy at two and six years prior respectively. All other aspects of the patient's history were non-contributory to the final diagnosis. Initial physical examination revealed only epigastric tenderness and jaundice. Investigation was commenced at another facility where she had been diagnosed with acute pancreatitis. These included an abdominal ultrasound scan, which did not identify gallstones as well as MRCP which showed abnormal soft tissue filling left and right hepatic ducts, suggesting a neoplastic process.

Abdominal computer tomography (CT) confirmed features in keeping with acute pancreatitis as well as intra-hepatic duct dilation. Notably the common bile duct measured at 7 mm. During this admission her symptoms worsened, because she developed haematemesis and then became haemodynamically unstable. The patient's haemoglobin rapidly fell from 8.2 to 3.4 g/dl resulting in emergency surgical exploration which was preceded by upper gastrointestinal endoscopy that revealed clot filling the duodenum. Blood was evident within duodenum, small bowel and colon at laparotomy.

A duodenotomy was performed and clots were evacuated to facilitate further endoscopic inspection and exclusion of a duodenal source of bleeding. The common bile duct was noted to be

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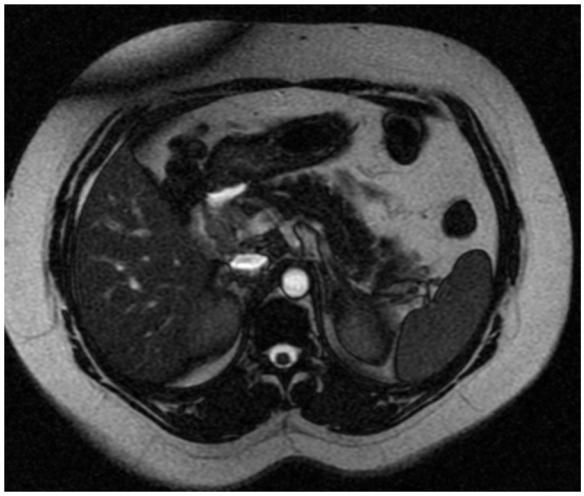

Fig. 1. Showing Intraluminal Thrombus within Biliary Tree.

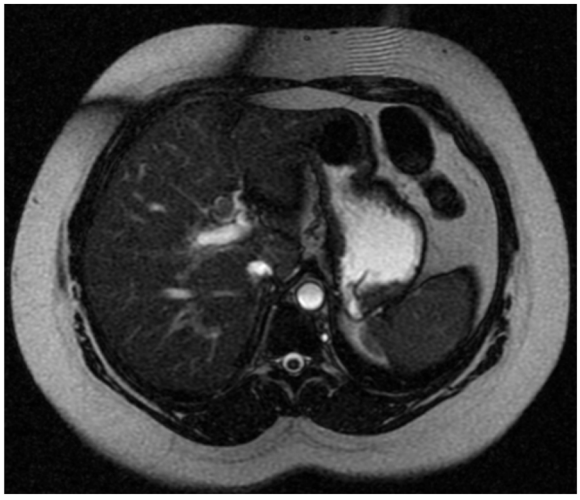

Fig. 2. Showing Intraluminal Thrombus within Biliary Tree.

distended and, as such, a choledochotomy was performed to reveal a clot, filling the lumen which was removed. Choledochoscopy did not confirm the presence of any neoplasm within the accessible biliary tree. Recurrent bleeding during exploration of the common bile duct allowed identification of the source as a fistula connecting the cystic duct stump and portal vein. The components of the fistula were dissected revealing the presence of a surgical clip within it. The portal vein was repaired primarily resulting in cessation of bleeding. An intra-operative cholangiogram confirmed a normal biliary tree, with no intra-luminal lesion demonstrated. A 10 cm, 7 french, biliary stent was placed prior to closure of the choledochotomy and the patient's post-operative course was without incident (Fig. 1).

3. Discussion

Haemobilia is an uncommon source of bleeding resulting from an abnormal communication between the vascular and biliary systems. The term haemobilia was first introduced by Sandblom in 1948 to denote bleeding into the biliary tract following liver injury, but is used currently to indicate haemorrhage into the biliary tract from any cause [5]. The classic triad of symptoms described by Heinrich Quincke in 1871 includes pain, gastrointestinal bleeding and obstructive jaundice. This triad is not frequently observed with ranges between 20% to 40% in patients who present [1,6]. Haemobilia has been associated most commonly with trauma inclusive of penetrating and blunt. Conversely, with the increased percutaneous interventional techniques the frequency of iatrogenic haemobilia has increased significantly, comprising over 60% of all cases [1]. Common bile duct stones, cholecystitis, gallbladder cancer, hepatic artery pseudo aneurysm (HAPA), parasitic infestation and liver abscess are all reported causes of haemobilia [7]. Overall HAPA and liver trauma are the more common causes [5].

Commonly encountered problems such as acute pancreatitis, obstructive jaundice and upper gastrointestinal bleeding may be manifestations of haemobilia. Notably thrombus within the bile duct may cause obstructive jaundice and or acute pancreatitis [8]. The latter as a consequence of haemobilia has been in the literature since 1975, due to a complication of percutaneous trans-hepatic cholangiography [9]. It hypothesized that intra-luminal biliary tree thrombus induces pancreatitis in the same manner as do gallstones, with initial obstruction at the ampulla of Vater followed by pressurization of the pancreatic and bile ducts [10]. Upper gastrointestinal bleeding is a life-threatening condition and can occur because of a ruptured HAPA into the biliary tree or a porto-biliary fistula (Fig. 2).

HAPA rupture may present several months to years after cholecystectomy, however up to 80% will usually manifest within 4 weeks. A small minority of cases will present after one year with the longest interval reported being 13 months [3]. The right hepatic artery is most commonly affected in approximately 80% of cases. The first choice in the management is angiography, which allows for confirming the diagnosis and facilitates embolization of the aneurysm [8]. Porto-biliary fistulae, occurring between the ductal system of the biliary tree and portal vein, is a recognised complication of laparoscopic cholecystectomy [3,11]. It is a rare condition that may be difficult to recognize, however it is nonetheless essential to include it in the differential diagnosis of upper gastrointestinal bleeding. In the case highlighted a two-year period elapsed prior to the onset of symptoms related to the porto-biliary fistula. There has been two previously documented cases of haemobilia due to a porto-biliary fistulae complicating laparoscopic cholecystectomy [12,13].

An antecedent history of liver trauma or instrumentation can direct attention to the biliary tree as a possible site of bleeding allowing for diagnosis to be made [3]. Porto-biliary fistulae can be managed successfully with the placement of percutaneous stent-grafts, biliary stenting under direct vision or open exploration [14].

Due to the low volume of patients diagnosed with this condition the management is individualised on a case basis. Factors influential include the clinical state of the patient, the mode of diagnosis, underlying aetiology, facilities and expertise available for performing non-surgical techniques such as angio embolization and percutaneous or endoscopic stenting. Open surgical management as seen in our index case remains a viable option, which can be undertaken at the time of diagnosis or in circumstances when conservative and less invasive methods are unsuccessful (Table 1).

4. Conclusion

Pancreatitis is a common surgical condition with a myriad of etiological factors. However, acute pancreatitis is infrequently caused by thrombus obstructing the pancreatic duct. Haemobilia due to a portal vein-biliary tract fistula is an unusual complication of laparoscopic cholecystectomy. The mechanism in this case is thought to have been be erosion of a metallic clip, placed at laparoscopic cholecystectomy into the portal vein posteriorly. Advances in surgical technology have resulted in an increase in the number minimally invasive and interventional procedures being performed on the hepato-biliary system. Surgeons must be alert to the potential for

Table 1
Haematological and Biochemical Investigations.

Parameter	Pre-admission				ADM	Post admission			Post-OP	
	DAY 8	DAY 7	DAY 6	DAY 5		DAY 2	DAY 3	DAY 4	DAY 1	DAY 5
WBC (10^6/dL)	9.6	7.4		8.8	8	15.15	13.33	8.53	9.17	8.12
Hb (g/dL)	13.0	11.8		10.2	8.2	7.8	6.3	3.4	8.1	8.3
Total Bilirubin (mg/dL)	1.9	3.7	4.8	5.9	4.3	3.8	3.5		0.9	0.8
Direct Bilirubin (mg/dL)	1.5	2.9	3.9	4.8	3.5	2.1	1.1		0.0	0.0
Indirect Bilirubin (mg/dL)	0.4	0.8	0.9	1.1	0.8	0.9	0.7		0.3	0.3
Lipase (U/L)	425				10.100	2739	527		101	353
Amylase (U/L)	126				909	563	160		45	76
AST (U/L)	240	418	289	205	464	221	93		159	51
ALT (U/L)	326	537	563	484	554	555	329		264	125
ALP (U/L)	155	134	158	198	197	265	240		98	114
GGT (U/L)	649	614	632	638	614	435			126	139
LDH (U/L)	1694				1814	1523			1108	871

and familiar with the spectrum of complications related to these techniques.

Conflicts of interest

The authors have no conflicts of interest to declare.

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Ethical approval

Not applicable.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal upon request.

Author contribution

Lemuel Pran, Reena Moonsie, Shanta Baijoo – writing of paper.

James Byam, Marlon Seenath, Shivraj BahadurSingh – review of paper.

James Byam, Marlon Seenath and Gurubasavaiah – members of surgical team who performed procedure.

Guarantor

Lemuel Pran.

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