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SEVERE ACUTE HAEMORRHAGIC PANCREATITIS FOLLOWING PERCUTANEOUS TRANSHEPATIC BILIARY DRAINAGE: A DREADED COMPLICATION

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ABSTRACT

Percutaneous transhepatic biliary drainage (PTBD) is an invasive procedure used to relieve biliary obstruction and has its own morbidity like endoscopic retrograde cholangiopancreatography (ERCP). Acute pancreatitis following PTBD is not so known entity though elevated serum amylase can be seen post-PTBD. We are presenting a case of a woman in mid 30s with Strasberg type 2 benign biliary stricture post cholecystectomy who underwent internal-external PTBD and developed severe acute hemorrhagic pancreatitis following PTBD. Patient had stormy course and succumbed to it despite best efforts.

KEYWORDS: Percutaneous transhepatic biliary drainage, PTBD, Severe acute pancreatitis.

INTRODUCTION

Percutaneous transhepatic biliary drainage (PTBD) is an invasive procedure used to relieve jaundice caused by proximal biliary obstruction, both benign and malignant. Similar to endoscopic retrograde cholangiopancreatography (ERCP), PTBD carries its own morbidity. Common complications include abdominal pain, bleeding, cholangitis, sepsis, peritubal leak, and biloma, catheter blockage, dislodgement or fracture.[1,2] While elevated serum amylase levels may occur post-PTBD but often remain asymptomatic. Acute pancreatitis (AP) following PTBD is rarely reported complication. Cases of post-PTBD pancreatitis tend to be mild to moderate and are typically managed conservatively. However, we present a case of acute severe hemorrhagic pancreatitis following PTBD with stormy course.

Case

A woman in her mid 30s, diagnosed with benign biliary stricture (Strasberg type E2, completely clipped CBD) following open cholecystectomy, had a left external percutaneous transhepatic biliary drainage (PTBD) in place. She presented with intermittent fever, jaundice, and reduced PTBD output. Evaluation revealed moderate cholangitis with the PTBD catheter pulled out, its tip located in the subcutaneous plane. Urgent replacement of the PTBD was planned. Pre-procedure, she was adequately hydrated and received appropriate antibiotics. Access to the left biliary system was achieved using the previous PTBD catheter under fluoroscopic and ultrasound guidance. A tight stricture was observed in the mid common bile duct (CBD) on cholangiogram, with contrast trickling into the distal CBD as well. A Terumo guide wire was successfully passed into the distal CBD on the second attempt. Following this, a 10 Fr internal-external catheter was inserted over the guide wire after dilatation, with the distal tip placed in the D3 segment of the duodenum and the proximal side holes positioned in the left hepatic duct proximal to the stricture (Fig. 1). Check aspirate revealed clear bile and the PTBD catheter was secured to the abdominal wall. Post-procedure, patient was kept under observation with continued IV hydration and antibiotics. On day 0, the patient reported persistent pain at the procedure site, managed with IV analgesics. On day 1, she developed severe epigastric pain radiating to the back, partially relieved by IV analgesics. Abdominal distension with evidence of free fluid was noted on clinical examination and investigations revealed leucocytosis (19000/cmm) with normal liver enzymes. Ultrasound revealed moderate ascites, confirmed as hemorrhagic by diagnostic tap with ascitic fluid amylase: 10600 IU/ml and serum amylase: 6000 IU/ml. Blood and bile cultures were sterile. A CT scan showed a diffusely bulky pancreas with peripancreatic fat stranding, moderate ascites without pancreatic ductal dilatation (Fig. 2). The PTBD catheter tip was visualized in the D3 segment of

the duodenum without contrast leak after oral positive contrast administration. A diagnosis of acute severe hemorrhagic pancreatitis was made. Despite aggressive management, the patient developed multi-organ failure and succumbed to it on day 4 post-procedure despite best organ supportive measures.

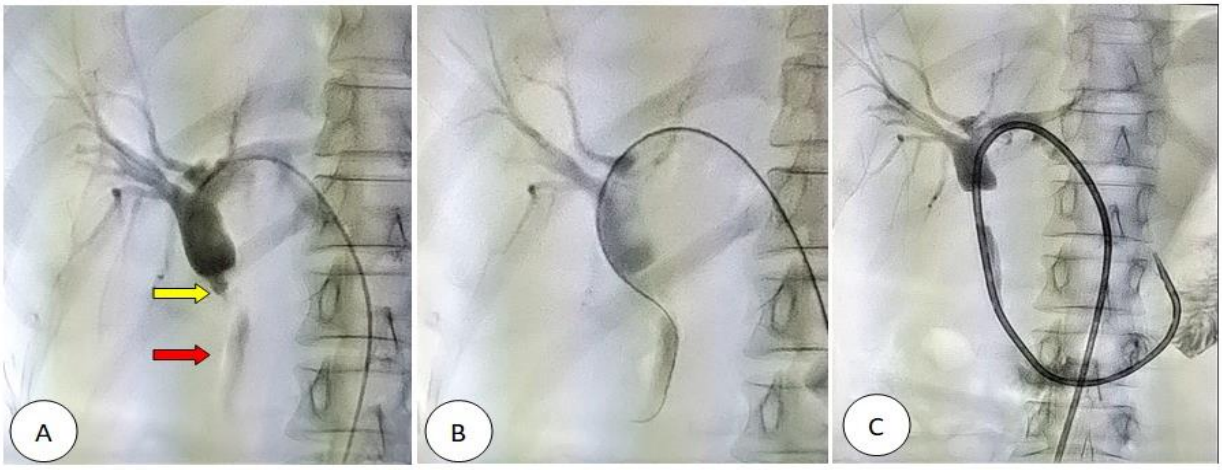

Fig. 1 Fluoroscopic spot images showing: A. Guide wire passing through left hepatic duct and cholangiogram showing opacification of bilateral ductal system and common hepatic duct with tight stricture in proximal CBD as shown by yellow arrow and distal passage of contrast as shown by red arrow. B. Guide wire passing across stricture site in distal CBD. C. Catheter seen passing across stricture into duodenum via distal CBD with opacification of duodenum.

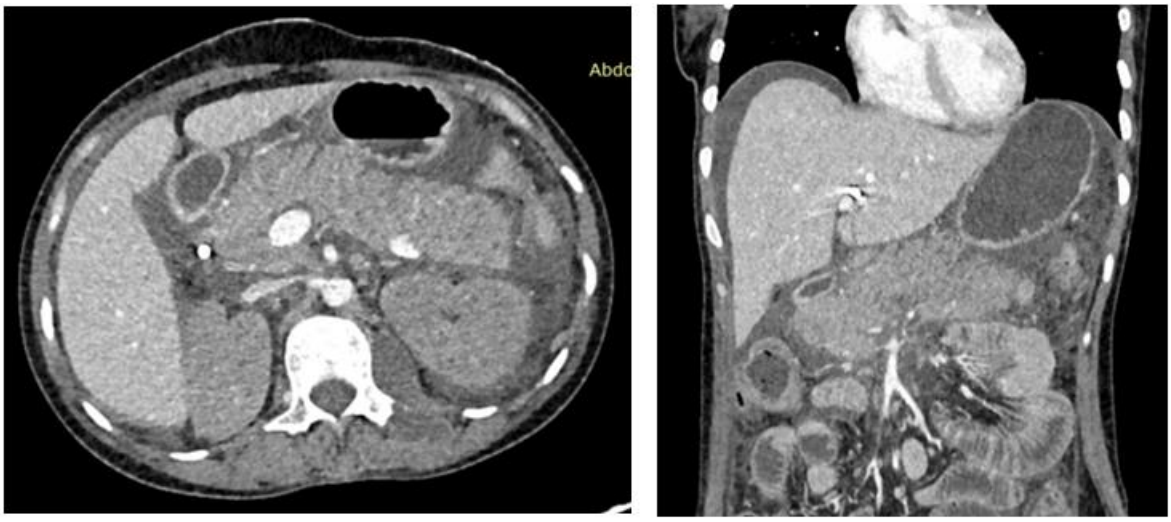

Fig. 2 Axial and coronal sections of contrast enhanced CT scan showing bulky and edematous pancreas with peripancreatic stranding with ascites.

DISCUSSION

For drainage of proximal biliary obstruction, percutaneous transhepatic route is an important approach and preferred over endoscopic retrograde approach. PTBD is associated with morbidity with major complications ranging from 4% to 25% in various studies.[1-4] Major complications associated with PTBD include abdominal pain, bleeding, intrahepatic hematoma, cholangitis, sepsis, peritubal leak and biloma as well as rarer occurrences of biliovenous or biliopleural fistula, pneumothorax and penumoperitoneum with peritonitis.[1-4] AP following PTBD is observed, although it is not as widely recognized as with ERCP. Hyperamylasemia without clinical features of pancreatitis has been reported in 19-21% patients post PTBD. However AP remains under recognized with reported rates ranging from 5 to 12.5% in various studies[5-8] Recent meta-analysis revealed similar rates of AP following PTBD and ERCP[9,10] and it has been observed that risk of AP following PTBD is higher with distal interventions with manipulation across ampulla of Vater.[8] Etiology of pancreatitis following PTBD appears to be similar to gall stone pancreatitis attributed to mechanical ductal obstruction secondary to in-situ stent and inflammatory edema of Ampulla of Vater (AOV).[11, 12] Most of cases develop mild AP following PTBD, with only a few progressing to severe AP, as seen in our case.

In conclusion, development of AP following PTBD significantly alters management of primary disease. In cases of malignant biliary obstruction, it precludes surgical intervention in nearly half of patients. Similarly, for benign cases like benign biliary obstruction, it delays definitive surgical intervention and can cause mortality as in our case. Therefore, it is important to suspect AP following PTBD early, especially when manipulation across AOV is done.

Abbreviations

AP: Acute pancreatitis
PTBD: Percutaneous transhepatic biliary drainage
ERCP: Endoscopic retrograde cholangiopancreatography
AOV: Ampulla of Vater.

Conflict of interest

The authors declare that they have no conflict of interest.

Informed consent

Informed consent was obtained from next of kin.

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