CONSERVATIVE MANAGEMENT OF TRAUMATIC HEMOBILIA: A CASE REPORT AND REVIEW OF LITERATURE

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Hemorrhage into the biliary tree, known as hemobilia, is a serious complication of hepatic trauma [1]. Treatment in previous reports consisted of surgical intervention ranging from ligation of the feeding artery after angiographic localization to hepatic lobe resection which is associated with high mortality [2–10]. Hepatic artery embolization may also be successful [11]. To my knowledge, there are only scanty reports of cases which responded to conservative treatment alone [1,2,5]. In this communication a case of traumatic hemobilia which had been solely treated conservatively is presented.

Case Report

A 26-year-old male was referred to Asir Central Hospital after two admissions to other hospitals. The first admission was immediately after sustaining a blunt abdominal trauma in a road traffic accident. At laparotomy, 1.5 liters of free blood in the peritoneal cavity and a leaking subcapsular hematoma in the right lobe of the liver hiding a deep laceration were found. This was explored and the bleeding was secured. No bile duct injury was recognized. Repair was followed by an uneventful postoperative period. One month later he was readmitted to another hospital with pain in the right lower chest, fever, and vomiting. Physicial examination revealed jaundice, tenderness and guarding in the right hypochondrium. Ultrasound scanning (USS) showed a distended gallbladder filled with a clot-like substance. Another laparotomy was performed in which a distended, inflamed gallbladder containing > 250 cc of blood clots, debris, and pus were found. In view of the poor general condition of the patient and extensive adhesions, only cholecystostomy was performed using a number 20 F Foley catheter. Tube cholecystogram demonstrated a honey-comb area in the right lobe of the liver communicating with the biliary tree (Figure 1). Two weeks later, the patient began to have bleeding through the cholecystostomy tube, melena and hematemesis. He was then referred to our hospital for further management. On arrival he looked ill, jaundiced, and emaciated, but was afebrile and the cholecystostomy was still draining bloody bile. There was tenderness over the right hypochondrium and the right lower intercostal spaces. Pertinent laboratory data revealed:

FIGURE 1. Tube cholecystogram showing leak of contrast into the cavity and a sharp break of a biliary duct.

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Hb was 110 g/L (dropped to 77 g/L three days later), WBC 9.1 × 10/L, total bilirubin 140.22 μmol/L, direct bilirubin 56.45 μmol/L, alkaline phosphatase 4.6 μkat/L, SGOT(AST) 1.38 μkat/L, SGPT 1.27 μkat/L, albumin 36 g/L and T. protein 57 g/L. Ultrasound scanning (USS) of the abdomen showed an intrahepatic cavity in the right lobe of the liver measuring 8.5 × 5.5 × 4 cm with air pockets (Figure 2). A selective celiac angiography was carried out but was not informative. Computed tomography (CT) scan showed a gasfilled cavity in the right lobe of the liver. Aspiration of the intrahepatic cavity under USS guidance yielded only blood.

The patient was treated conservatively because of the steady clinical and biochemical improvement. The cholecystostomy biliary drainage gradually became clear bile and melena eventually ceased. Jaundice subsided and the total bilirubin on discharge was 27.36 μmol/L. Tube cholecystogram was repeated prior to discharge and showed no further abnormalities. The tube was removed and the patient was discharged home in good condition after 34 days of hospitalization. He was seen nine months later with no history of hematemesis, melena, or jaundice.

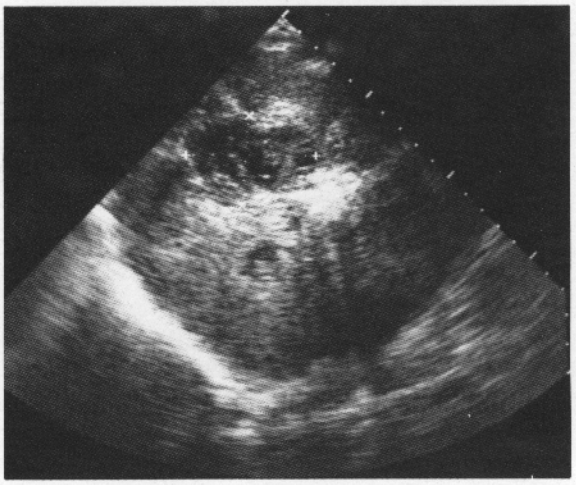

FIGURE 2. Ultrasound scanning (USS) of the liver showing intrahepatic cavity in the right lobe of the liver.

Discussion

Traumatic hemobilia was described more than 300 years ago (1654) by Francis Glisson [1,12]. Sandblom then studied 500 cases of hemobilia [12] and since then, numerous cases have been reported. Two percent of injuries to the liver may become complicated by hemobilia [4,5]. Other causes include hepatic artery aneurysms, cholelithiasis with erosion of the cystic artery, ascariasis, iatrogenic trauma during hepatobiliary surgery, hepatic neoplasms especially hepatoma and rarely portal hypertension and carcinoma of the gallbladder [1,5].

Traumatic laceration of the liver parenchyma may involve the biliary ducts (Figure 1) and associated blood vessels; usually the arteries [1,3]. A central cavity resulting from trauma and digestion by bile becomes filled with blood and bile. The mounting pressure within this cavity eventually becomes decompressed into the biliary tree and then into the gastrointestinal tract (GIT) explaining the occurrence of biliary colic, GIT bleeding and jaundice [3,12,13]. The clotted blood in the gallbladder acts in the same way as gallstones [12].

Diagnosis of hemobilia may be extremely difficult. It should be suspected in a patient who sustains abdominal trauma or undergoes hepatobiliary surgery followed by hematemesis and/or melena, upper abdominal pain, jaundice and raised alkaline phosphatase and bilirubin levels in serum [1,3,5,12]. Fever and palpable gallbladder are occasionally present [4,13,14]. The trauma may not necessarily be recent and may precede the ailment by one year or more [4,5,12]. In our case, USS was useful in showing the intrahepatic cavity (Figure 2), the distended gallbladder and the biliary tree. Selective arteriography may show the communicating vessel, aneurysms or arteriobiliary fistula [5,7,15]. Detection of hemobilia using Technetium-99m DTPA and Technmetium-99m labeled red blood cells has been reported [16,17]. CT of the abdomen helps to differentiate bile from blood in the biliary tree especially in non-traumatic hemobilia [18].

Treatment of hemobilia depends on the underlying cause. Surgical intervention preceded by arteriographic localization is the hallmark of treatment [1]. In cases involving aneurysms, excision of the aneurysm or ligation of the feeding artery proximally and distally is the treatment of choice [5,14]. In traumatic hemobilia, ligation of the common hepatic artery, preferably proximal

to the gastroduodenal artery, or one of its branches has been successful [1,4]. Since the mortality is high, hepatic resection should be reserved for those cases with major damage to the right or left lobes or when the above mentioned measures fail to stop the bleeding [4]. Hepatic artery embolization has been described in hepatic trauma, hemobilia, aneurysms, and arteriovenous fistula [11]. In our case, spontaneous recovery on conservative treatment alone was judged on the basis of cessation of blood drainage, subsidence of jaundice, melena and improvement in the patient's general condition and laboratory results. Hence, a plea for conservative approach rather than aggressive surgery is made especially if the patient shows such progressive improvement both clinically and by laboratory tests even in the presence of arteriobiliary communication which is demonstrated by angiography [2]. Careful exploration of the cavities and meticulous hemostasis with good repair at laparotomy for liver injuries is the key for prevention of hemobilia [1].

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