LIFE-THREATENING COMPLICATIONS OF IMPACTED COMMON BILE DUCT LITHIASIS. A CASE REPORT

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LIFE-THREATENING COMPLICATIONS OF IMPACTED COMMON BILE DUCT LITHIASIS. A CASE REPORT (Abstract). Impacted common bile duct (CBD) lithiasis poses therapeutical challenges and repeated attempts of removal may result in life-threatening complications. Case report. A 45 year-old female patient was admitted in emergency for right upper quadrant abdominal pain and jaundice. Clinical, lab data, abdominal ultrasound (US) and cholangio-MRI established the diagnosis of acute cholecystitis and obstructive jaundice due to distal CBD lithiasis. Endoscopic retrograde colangiopancreatography (ERCP) confirmed the presence of a distal CBD stone but extraction failed. The patient was operated on and surgical procedure consisted of cholecystectomy, intraoperative cholangiography and a side-to-side choledocho-duodenal anastomosis was performed because all attempts to extract the stone through cholecotony or duodenotomy and enlargement of endoscopic shintcerotomy failed. The postoperative course was endangered by a severe pancreatitis, a massive upper digestive bleeding and portal vein thrombosis that responded to conservative management in the intensive care unit. The patient was discharged after 34 days in good clinical condition and approximately 9 months later was readmitted electively for an incisional hernia. Apart from this, physical examination, lab tests and imagistic studies were normal; the patient was operated and rapidly discharged in good condition. In conclusion, the management of CBD lithiasis may be a serious challenge both for interventional endoscopists and surgeons and require a concerted team effort. Keywords: LITHIASIS, COMMON BILE DUCT, ENDOSCOPY, SURGERY, PANCREATITIS.

Impacted common bile duct (CBD) lithiasis poses therapeutical challenges and repeated attempts of removal may result in life-threatening complications. We report a case in which endoscopical and surgical attempts of stone removal from the distal CBD resulted in serious complications such as cholangitis, acute necrotizing pancreatitis, upper digestive bleeding and portal veins thrombosis.

CASE REPORT
A 45 year-old female patient was admitted in the IIIrd Surgical Unit on emergency basis for right upper quadrant abdominal pain and jaundice. As past medical history she was diagnosed and treated with steroids for sarcoidosis with joint and pulmonary involvement but for the last years she was symptoms free without any medication. Obstructive jaundice due to biliary (gallbladder and CBD) lithiasis was sus-
pected due to clinical, lab data and abdominal ultrasound (US). Further on, cholangio-MRI showed dilated intrahepatic bile ducts and a CBD of 12 mm due to distal biliary lithiasis (fig. 1).

**Fig. 1.** Cholangio-MRI revealed a dilated CBD with high suspicion of distal biliary lithiasis

The patient was referred for endoscopic retrograde colangiopancreatography (ERCP) that confirmed the presence of a distal CBD stone; a large sphincterotomy was performed but stone extraction failed due to the size of the stone and repeated rupture of balloon catheters. As the patient refused another ERCP she was planned a few days later for surgical removal. Surgical procedure started with a classical cholecistectomy and intraoperative cholangiography showed a 15 mm stone fixed in the distal CBD (fig.2).

Further on, a standard choledocotomy was performed but attempts to remove the stone through choledochotomy failed. Duodenotomy and enlargement of endoscopic sphincterotomy followed but the calculus could not be extracted due to its size and adherence to the CBD. Moreover, a persistent bleeding from the margins of sphincterotomy required haemostatic sutures and cauterization. Under these circumstances, in order to restore the biliary flow, a side to side choledocho-duodenal anastomosis was performed, abandoning the impacted stone.

**Fig. 2.** Intraoperative cholangiography showed a large stone impacted in the distal CBD with difficult duodenal passage.

The first 48 hours postoperatively the patient was alert, hemodinamically stable, on spontaneous respiration, without fever but she complained of upper abdominal pain and nausea with a naso-gastric output of 900 ml. The level of pancreatic enzymes rose significantly (amylase- 2709 U/L and lipase-3835U/L). US of the abdomen revealed a peripancreatic, perisplenic and left retrocolic fluid collection and partial thrombosis of the portal vein. Abdominal computer-tomography (CT) confirmed the diagnosis of postoperative acute pancreatitis and established a Balthasar score of 8 and partial thrombosis of the portal vein. Under anticoagulation in prophylactic doses, in the third postoperative day the patient presented an abundant hematemesis allegedly from the margins of sphincterotomy, with Hb of 6 mg/dl, Ht- 20%, platelets-95000, INR-1.77, APTT-36, PT-20.
A conservative treatment was decided, consisting of transfusions, fresh frozen plasma and hemostatics and finally, after administration of recombinant factor VII, hemostasis was achieved. Following standard conservative treatment, the clinical, biological and CT status of pancreatitis improved significantly although pseudo-membranous colitis was diagnosed and subsequently successfully managed. After 34 days of hospital stay she was discharged in good clinical condition. A follow-up admission after 2 months revealed a symptom-free patient, with hematology and biochemistry tests within normal limits while abdominal CT showed a homogenous pancreas, a small interhepatogastric collection and partial thrombosis of the left portal vein. More recently, approximately 9 months postoperatively, the patient was readmitted electively for a small incisional hernia. Apart from the incisional hernia, physical examination, lab tests and imagistic studies were normal; the patient was operated and rapidly discharged in good condition.

**DISCUSSION**

It is stated that the first-line treatment for CBD lithiasis is endoscopic retrieval but dealing with a stone larger than 1.5 cm and impacted in the terminal CBD becomes quite a challenge both for interventional endoscopy and surgeons. Several endoscopic procedures are currently available - basket mechanical lithotripsy, mother and baby choledochoscopy and intraductal lithotripsy, electrohydraulic lithotripsy, intraductal laser lithotripsy or extracorporeal shock-wave lithotripsy - with a rate of success of 90% - 95% and no greater frequency of pancreatitis and hemorrhage than with the standard techniques (1-4). When bile duct stones cannot be removed through endoscopic procedures, stent placement allows biliary decompression and prevent cholangitis. Biliary stents may also fragment large stones, making them easier to extract later (5-7). Pancreatic stent placement seems to reduce the incidence of post ERCP pancreatitis in high risk patients (8, 9). The incidence of choledocholithiasis has been noted as 10-15% of patients at the moment of cholecystectomy, increasing with age (10, 11). In a prospective study of common bile duct calculi in patients undergoing laparoscopic cholecystectomy, Collins et al. showed that choledocholithiasis occurs in 3.4% of patients undergoing laparoscopic cholecystectomy but more than one third of these pass the calculi spontaneously within 6 weeks of operation (12).

In the reported case, the endoscopical management failed and aggravation of cholestasis imposed surgery. However, local circumstances did not allow the removal of the calculus and the only option was a biliary bypass procedure. The postoperative course was endangered by massive upper digestive bleeding and severe acute pancreatitis, that responded to conservative treatment.

**REFERENCES**


