

CASE REPORT

False Track as an Unexpected Complication of Therapeutic Endoscopic Retrograde Cholangio Pancreatography

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Abstract

A 65 years old female had an ERCP whilst being managed for obstructive jaundice in her local hospital. Misplacement of the stents during cannulation occurred. The stents created false track retroperitoneally. They remained silent and were not removed after being palpated during laparotomy due to the high risk relationships to important structures and to the poor prognosis of the patient condition.

Key Words and Abbreviations

ERCP: Endoscopic retrograde cholangiopancreatography. PTC: Percutaneous transhepatic cholangiography. US: Ultrasonography. CT: Computed tomography. CBD: Common bile duct.

Introduction

Endoscopic retrograde cholangiopancreatography (ERCP) is widely used in different centers of different levels of experience (1-3). Unexpected and rare complications have

been reported. Knowledge of these complications and ability timely recognize them and skillfully manage them is a crucial prerequisite for good outcome. To this end, we report here an illustrative case of a rare complication of ERCP.

Case report

A 65 years old female with hypothyroidism stable on levothyroxine replacement therapy and dilated cardiomyopathy was referred our center for evaluation of pancreatic head mass. She presented with one month history of classical features of painless jaundice, itching, pale colored stool, and dark urine. There was no history of abdominal pain, distention, diarrhea, or constipation. There was no vomiting, weight loss, bone aches, contact with relevant patients, or history of blood transfusion. Physical examination was unremarkable apart from jaundice and hepatomegaly. Laboratory investigations revealed serum bilirubin of 223umol/l, mainly direct of 160 umol/l. The

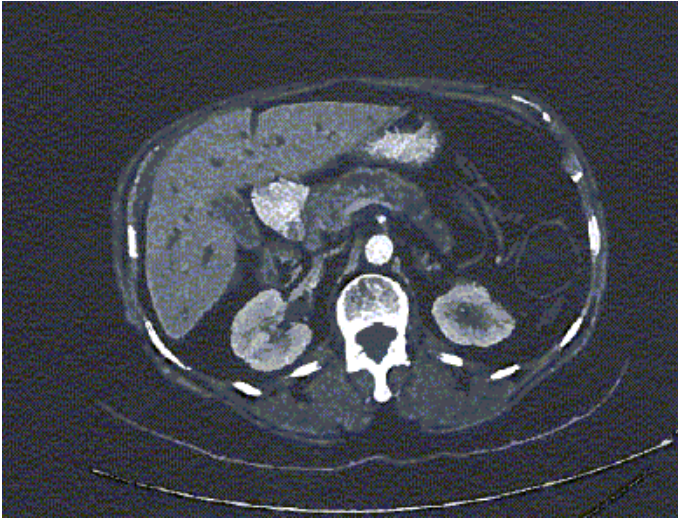


Figure 1. CT abdomen at the local hospital showed dilated intrahepatic ducts and common bile duct, pancreatic head mass.

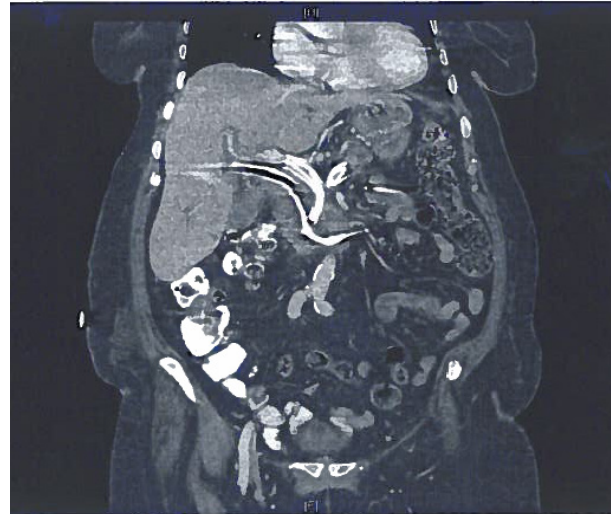


Figure 2. CT abdomen at RMH showed metal stent at the anatomical location of portal vein, superior mesenteric, and splenic vein (white arrow).

Table 1. Laboratory Investigations done to the patient at local hospital and RMH.		
	At local hospital	At RMH
Total White blood cell count	12,000	11,000
Hemoglobin level G/L	11	10.2
Platelets count	370,000	450,000
Serum Bilirubin (umol/l)	223	89
Direct bilirubin (umol/l)	160	70
Serum Alkaline Phosphatase U/l	310	130
Serum ALT IU/L	149	40
Serum AST IU/L	72	43
Serum GGT	380	160
Blood UREA (Mg/dl)	4	5
Serum Creatinine (Umol/L)	60	56
Albumin (G/L)	33	32
International Normalized Ratio (INR)	1.4	1.3
Serum Amylase	68	28
Parameters with remarkable improvements are highlighted		



Figure 3 (A). ERCP image 1 showed metal stent parallel to duodenum with external PTC drain.

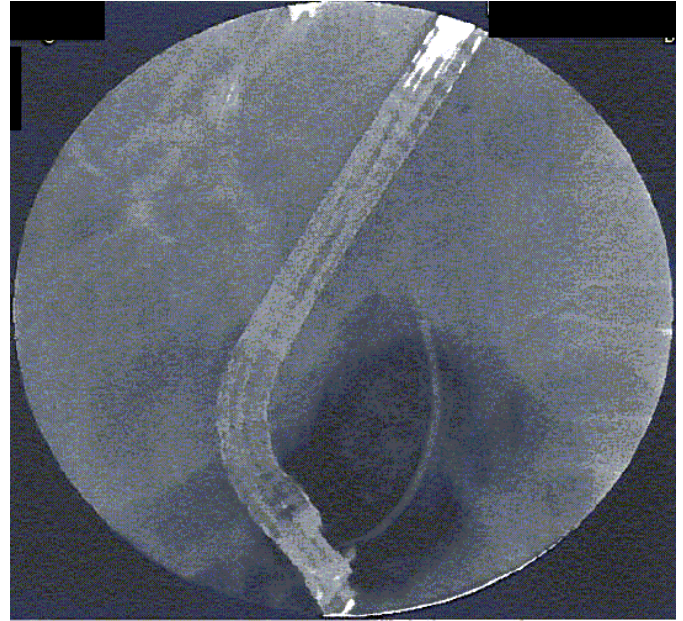


Figure 3 (B). ERCP image showed cannulation of the stent with absence of contrast after injection meaning blind.

serum alkaline phosphatase was 310 U/l, ALT was 149 IU/l, and AST was 72 IU/L.

Ultrasound (US) and computed tomography (CT) of the abdomen abdomen showed hypoechoic mass in the head of the pancreas measuring 3x3 cm, dilated pancreatic and intrahepatic biliary radicles, dilated common bile duct (CBD) to 11mm, gall bladder sludge and enlarged liver span (182 mm) without any focal masses (Figure 1). ERCP was performed locally and reported to have “difficult cannulation”. Two metallic stents were inserted with no effective response. Therefore, percutaneous transhepatic cholangiography (PTC) with internal and external drainage was done and the patient referred to Riyadh Military Hospital (RMH) for further evaluation of the pancreatic head mass. On admission, laboratory investigations showed remarkable improvement (Table 1). Repeated CT abdomen showed metallic stent at the anatomical location of the portal vein, splenic vein and part of the superior mesenteric vein (Figure 2). ERCP was repeated at RMH (Figure 3&4) with removal of external biliary drainage. Brushing cytology was done after sphincterotomy. Cholangiogram showed distal CBD stricture. Plastic stent “10F 10cm” was inserted. The metallic stents were visualized by the fluoroscopy near the CBD. Exploration laparotomy was done for evaluation of the pancreatic mass. During the surgery, the liver was found large, the omentum and peritoneum looked healthy with

no metastasis or seedings. After opening of the lesser sac, pancreas was palpated, one hard mass was found at the head, and one cystic lesion at the tail of the pancreas and biopsies were taken. The area of the duodenohepatic ligament was palpated the stent was felt. As the area around the stent was surrounded by a lot of blood vessels, it couldn't be explored. The stents left untouched due to higher possibility of complications if exploration would be attempted. As the patient from peripheral region with standard health care facilities, cholecystectomy and hepaticojejunostomy was done as a long term palliative measure to avoid recurrence of jaundice with progression of the tumor. The pancreatic biopsies showed poorly differentiated adenocarcinoma. Patient had post-operative complication in the form of intra-abdominal abscess collection which was drained radiologically under covered with antibiotics. The patient was discharged home and the family were informed about the outcome and expected short survival. The family and the local hospital's gastroenterology team had been informed about the complication of previous procedure.

Discussion

Compare to gastroscopy and colonoscopy, ERCP carries higher morbidity and mortality. The most frequent complications of ERCP are pancreatitis, cholangitis, hemorrhage, and duodenal perforation (1-3). A number of less common adverse events include cardiopulmonary

complications, contrast allergy, and impaction of a retrieval basket. Stents can also be incorrectly placed at the time of the procedure. Misplacement of the stent intrahepatically has been reported (4). Portal vein cannulation has been reported after endoscopic sphincterotomy (5), as well as in a case without sphincterotomy (6). Fistula has been reported in patient with pancreatic tumor and presumed to be related to cancer invasion (7). In our case, the patient was asymptomatic after the first ERCP, which makes vascular cannulation of the portal vein unlikely. Higher ERCP complication rate was reported in Low volume institution. Although PTC was done after the ERCP at the metallic stent were not noted at the anatomic location of CBD. When the ERCP was repeated at our center after the CT scan, we attempted to caunulate the misplaced stent and seemed to be blind track. We presumed that the stent was placed retroperitoneal. Revision of initial CT scan done at the local hospital with no visualization of the stents before the ERCP, and absence of air in portal circulation supported our opinion. The stents was not visualized during surgery likely due to its retroperitoneal position, was felt but not removed due to presence of collaterals around it. As more complications reported from low volume centers with limited experience in ERCP procedure, referral to high volume center with experienced endoscopists is arguably highly recommended. Definitely, early detection of complications improves the outcome and decreases the mortality and most certainly, all physicians dealing with such patients should be able to suspect and recognize complications.

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