ERCP in Total Situs Viscerum Inversus in Nakhonpathom Hospital; How I Do It?

การส่องกล้องตรวจรักษาท่อน้ำดีและตับอ่อนในผู้ป่วยอวัยวะภายในช่องท้องกลับด้านทั้งหมดในโรงพยาบาลนครปฐม: รายงานผู้ป่วย 1 ราย

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ABSTRACT

A 31-year-old female with thalassemia traits disease, total situs viscerum inversus presented with recurrent colicky pain in the left upper abdominal quadrant and mild jaundice. Laboratory parameters showed increased neutrophil with elevated conjugated bilirubin of 3.40 mg/dl. CT scan confirmed total situs viscerum inversus and dilatation of intra and extrahepatic duct with 0.8 cm stone.

ERCP, sphincterotomy with common bile duct stone extraction and plastic stent insertion were done in the first episode by right lateral decubitus position and mirror image technique. Two weeks later, re-ERCP was done by conventional way, i.e. left lateral decubitus position and ordinary technique insertion to remove stent and sweep common bile duct.

This report showed that an experienced endoscopist can achieve the same results in conventional way as it is possible when anatomical change (conventional technique takes easier than mirror image technique, in my opinion).

Keywords: ERCP, situs viscerum inversus, mirror image technique

บทคัดย่อ

ผู้ป่วยเพศหญิง อายุ 31 ปี โรคประจำตัวธาลัสซีเมีย ตรวจพบว่ามีอวัยวะกลับด้านทั้งหมด มีอาการปวดท้องด้านซ้ายบน และตัวเหลือง ตาเหลือง จากการตรวจเลือดทางห้องปฏิบัติการ พบเม็ดเลือดขาวขึ้นสูง ระดับบิลิรูบิน 3.40 ม.ล./ด.ล. เอกซเรย์คอมพิวเตอร์ช่องท้องพบผู้ป่วยมีอวัยวะกลับด้านทั้งหมด ขนาดท่อน้ำดีโต และมีนิ่วขนาด 8 ม.ม. ในท่อน้ำดี

ผู้ป่วยได้รับการตรวจรักษาครั้งแรกด้วยการส่องกล้องท่อน้ำดี และตับอ่อน ใช้บอลลูนดึงนิ่วออก และใส่ท่อพลาสติกระบายน้ำดี ในท่านอนตะแคงด้านขวาลง และใช้วิธีส่องกล้องกลับด้านจากวิธีปกติ (mirror image technique) จากนั้นอีก 2 สัปดาห์ ผู้ป่วยได้รับการส่องกล้องซ้ำ เพื่อเอาท่อพลาสติกระบายน้ำออกโดยครั้งนี้ได้ใช้วิธีปกติ (นอนตะแคงด้านซ้ายลง และใช้วิธีการส่องกล้องแบบปกติ)

ในรายงานนี้แสดงให้เห็นว่า เราสามารถใช้วิธีการส่องกล้องท่อน้ำดี และตับอ่อนแบบปกติ ถึงแม้ผู้ป่วยจะมีความผิดปกติทางกายวิภาคไม่ว่าหลังผ่าตัดหรือแต่กำเนิด

คำสำคัญ: การส่องกล้องท่อน้ำดีและตับอ่อน อวัยวะภายในกลับด้าน การทำหัตถการแบบกลับด้าน

Introduction

Total situs viscerum inversus is a rare autosomal recessive congenital abnormally, with a frequency of 1:5,000 to 1:10,000 live births, in which organs are transposed, totally or partially, to the opposite side of the body. In total situs viscerum inversus there is a complete transposition of all viscera, dextroposition of the heart, and the liver is palpable in left upper quadrant.[1]

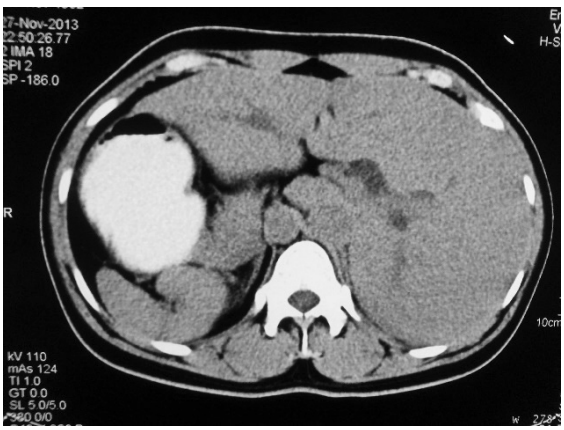

Fig.1

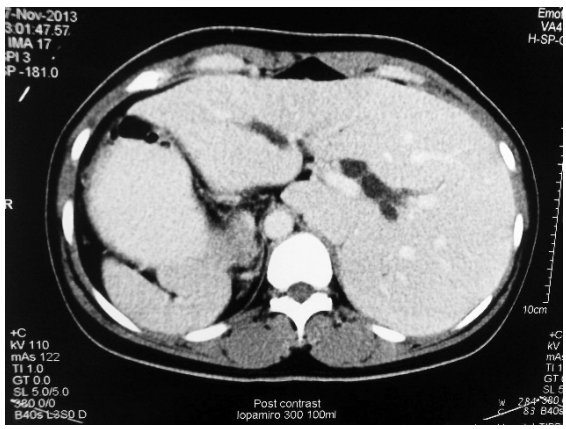

Fig.2

Fig.1-2 CT-Scan show liver in left side abdomen with dilatation CBD

Endoscopic sphincterotomy and stone extraction are standard procedures for the removal of bile duct stone. The instrumentation, the side-view endoscope, is built for the right position of the liver with the ampulla at the middle side of the duodenum.

I reported the case of a 31-year-old female, with choledocholithiasis and total situs viscerum inversus, in whom and ERCP was performed two times.

Case report

A 31-year-old female with total situs viscerum inversus, presented with colicky pain located to the left upper quadrant abdomen and jaundice.

Physical examination revealed mild tenderness on the left hypochondrium, and decreased bowel sounds.

Laboratory studies showed: white blood cell count 13,500 /ml (normal 4,000-10,000), total bilirubin 4.40 mg/dl with direct bilirubin 3.40 mg/dl, AST 120 u/l, ALT 130 u/l, amylase 180 u/dl, alkaline phosphatase 300 u/dl, creatinine 1.0 mg/dl, BUN 12 mg/dl, all other laboratory parameters were in the normal range.

Abdominal ultrasound considered total situs viscerum inversus and showed a dilatation of common bile duct with stone in common bile duct.

The diagnosis was common bile duct stone with cholangitis to be ruled out, the patient was admitted to the hospital and antibiotic therapy.

A CT scan was done, demonstrated 0.6-0.8 cm common bile duct stone and dilatation of the common bile duct 1.0 cm as well as total situs viscerum inversus. One day after admission, the patient underwent a therapeutic ERCP with sphincterotomy and stone extraction with stent insertion.

Fig. 3 Right lateral decubitus position with mirror image technique

First time, under general anesthesia. Duodenoscopy was performed with a lateral view endoscope (Olympus). The patient was in the right lateral decubitus position with the endoscopist at the left side of the table. With the mirror image technique, in the stomach the endoscope was turned 180 degrees to the left, the second portion of the duodenum, another 180 degrees torsion towards the left was necessary and pushing against the abdominal wall the papilla was maintained in the correct position retrieving the instrument in the short position (looked difficult when performed, due to it an unusual way). The ERCP was carried out in the usual way with sphincterotome catheter.

Fig.4

Fig.5

Fig.6

Fig.7

Fig. 4-7 Mirror image technique (difficult)

The cholangiography confirmed the dilatation of the common bile duct 1.0 cm in diameter with common bile duct stone 0.5-0.6 cm in diameter. After a standard sphincterotomy the stone was removed by balloon catheter. The stent was inserted in common bile duct. The procedure lasted in 50 minutes.

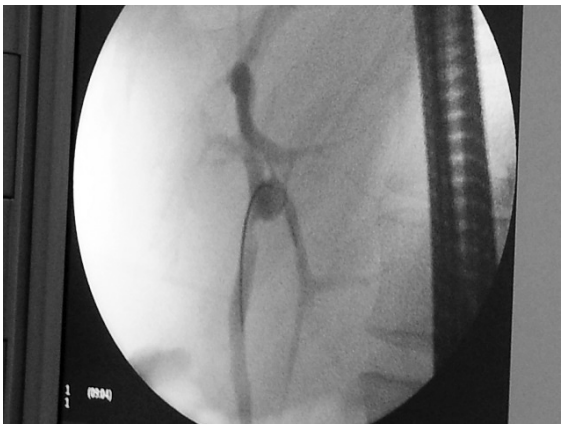

Fig.8

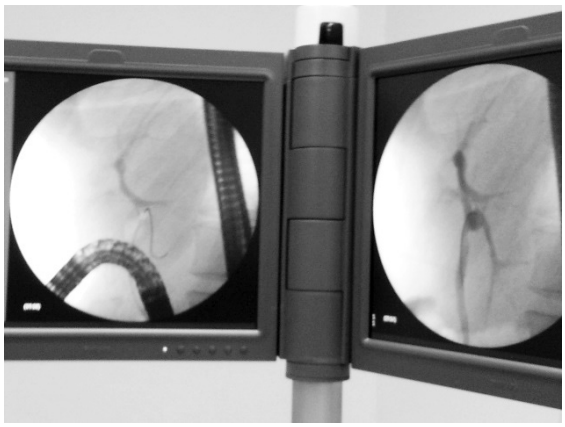

Fig.9

Fig. 8-9 Cholangitis, mild dildction CBD with smell stone

The post-operative course was uneventful. The patient was discharged after one day.

Then two weeks later, the patient came for re-ERCP and removed stent. The patient looked normal, jaundice decrease direct, bilirubin 1.5 mg/dl.

After premedication with pharyngeal xilocaine 10% and conscious sedation, ERCP was performed by conventional technique, left lateral decubitus position with the endoscopist at the right side of the table. In the stomach the endoscope was turned 180 degrees to the right. The second portion of duodenum was reached. Another 180 degrees torsion towards the right and pushing against the duodenal wall were done and shorted scope to diminish the torsion of the instrument. With the conventional technique, the procedure was easy. Then the stent was removed and re-inserted scope with the same technique. The balloon catheter was swept along common bile duct. Then the procedure ended with 25 minutes last.

The patient looked normal and was discharged in another day, and planned for laparoscopic cholecystectomy later.

Discussion

The current treatment for choledocholithiasis is endoscopic sphincterotomy followed by stone extraction. Therapeutic ERCP for bile duct stones has a success rate of 96-100%.[2] The standard position for ERCP is the left lateral or prone position. This is preferred because it allows a better delineation of biliary and pancreatic duct anatomy.[2] Biliary cannulation has a success rate of almost 100% with the patient in the left lateral or prone position.[3] Many reports showed that the supine position does not affect the feasibility of ERCP when the operator turns the instrument clockwise 180 degrees.[4]

Fabricius described for the first time total situs viscerum inversus in humans. The exact etiology remains obscure, but attempts have been made to explain it on the basis of complex gene.

Pathak KA et al[5] reported a case of ERCP performed in total situs viscerum inversus keeping the patient in the prone position and the endoscopist at the left side.

Some reports keeped the patient in the right lateral decubitus position and endoscopist at the right side (mirror image) and passed scope with opposite to conventional technique.

In this case, we took with two techniques; right lateral decubitus position with the endoscopist at the right side with mirror image technique when passed scope, it looked more difficult than conventional technique (left lateral decubitus position, endoscopist at the left side).

In conclusion, this report showed that in expert hands it was possible to perform ERCP in patient with total situs viscerum inversus with conventional technique (left lateral decubitus position with endoscopist at the left side and turn scope with normal technique), which is easier than mirror technique (right lateral decubitus position with endoscopist at the right side, and turned and torsion scope with opposite side to conventional technique), but these two techniques can success for ERCP in total situs viscerum inversus.

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