To twist or not to twist: a case of ERCP in situs inversus totalis

A 57-year-old woman with history of hypercholesterolemia and situs inversus totalis presented with a chief complaint of epigastric pain and poor appetite for 2 days. The epigastric pain was 7/10 in intensity with no radiation. On physical examination, she had no abdominal scars but there was evidence of hepatosplenomegaly and epigastric tenderness on palpation, although Murphy’s sign was negative; bowel sounds were normal on auscultation. The results of laboratory testing revealed normal aspartate transaminase (AST) and alanine transaminase (ALT) levels, but an elevated total bilirubin of 1.3 mg/dL. The alkaline phosphatase (ALP) level was 112 IU/L (normal 45–115 IU/L) and the γ-glutamyltransferase (GGT) was 195 IU/L (normal 0–42 IU/L). Biliary ultrasound revealed a moderately dilated common bile duct and multiple gall stones. A computed tomography (CT) scan of the abdomen and pelvis confirmed the diagnosis of situs inversus totalis with hepatosplenomegaly (Fig. 1).

The patient underwent endoscopic retrograde cholangiopancreatography (ERCP) for her proven choledocholithiasis. Because of the patient having situs inversus totalis, she was placed in a prone position with the endoscopist on the right side of the table (Fig. 2). During the ERCP, the endoscope was rotated through 180° in the second portion of duodenum to allow for the anatomical anomaly. The ampulla was identified with difficulty; however, wire-guided cannulation was then successfully performed. The first cholangiogram demonstrated filling defects and a sphincterotomy was performed (Fig. 3). After this, four pigment-type stones were removed and a subsequent cholangiogram showed that no filling defects remained.

During conventional ERCP in a patient without anatomical anomalies, the patient is placed in the left lateral decubitus position with the endoscopist on the left side of the table [1]. There have been a few reports of successful cases where modifications of the conventional ERCP technique have been used [2, 3]. These have included alterations in the position of the patient prior to the procedure, during the procedure, and/or alteration in the position of the endoscopist [1, 4]. Our case demonstrates that a skilled endoscopist can successfully carry out ERCP while maintaining a patient with situs inversus in the prone position without using a mirror-image technique or resorting to laparotomy [5].
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