Successful Stone Removal by Endoscopic Retrograde Cholangiopancreatography in Situs Inversus Totalis with Billroth-II Gastrectomy

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An 82-year-old female with a history of situs inversus totalis visited our hospital with complaints of abdominal pain and fever for 2 days. She had history of diabetes mellitus, cerebral infarction, and Alzheimer's disease, and underwent Billroth-II (B-II) gastrectomy due to stomach cancer 15 years previously. General appearance was acute ill looking and there was tenderness on right upper quadrant of abdomen. Laboratory findings were as follows: white blood cell, 22,120/mm³; total bilirubin, 3.63 mg/dL; direct bilirubin, 3.57 mg/dL; aspartate aminotransferase, 625 IU/L; alanine aminotransferase, 629 IU/L; alkaline phosphatase, 2,132 IU/L; and γ -glutamyl transpeptidase, 363 IU/L. An ab-

dominal computed tomography scan revealed transposition of the visceral organs from the right to left side and a stone in the dilated common bile duct (CBD) (Fig. 1). Endoscopic retrograde cholangiopancreatography (ERCP) was performed with a cap-assisted forward-viewing endoscope (Olympus, Tokyo, Japan) in patient with gastrojejunostomy (Fig. 2). A cholangiogram revealed transposition of the pancreatic duct oriented to the right side and the gallbladder and dilated CBD with a floating stone to the left side (Fig. 3). After biliary cannulation using catheter with a straight end at the 7 o'clock direction of major papilla, a guidewire was placed across the ampullary orifice (Fig. 4). Fol-

Fig. 1. Abdominal computed tomography scan (coronal view) showing situs inversus totalis and a bile duct stone (white arrow) and multiple gall bladder stones.

Fig. 2. A cap-fitted forward-viewing endoscope demonstrating Billroth-II gastrectomy with gastrojejunostomy status.

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Fig. 3. A cholangiogram of endoscopic retrograde cholangiopancreatography demonstrating transposition of pancreatic duct oriented to the right side and gallbladder and dilated common bile duct with a movable filling defect to the left side.

Fig. 4. A cap-fitted forward-viewing endoscope showing guide wire placed in orifice of bile duct at 7 o'clock position.

lowing endoscopic papillary balloon dilatation (EPBD) using a controlled radial expansion balloon (10 mm; Boston Scientific Microvasive, Cork, Ireland), a CBD stone was successfully retrieved using a basket (Fig. 5).

Although a few cases of modified ERCP techniques in situs inversus have been reported,¹⁻⁵ this is the first report of ERCP in situs inversus totalis combined with B-II gastrectomy. Comparing ERCP using conventional duodenoscope in situs inversus

Fig. 5. A complete stone removal using endoscopic papillary balloon dilatation.

totalis, access to the major papilla with forward-viewing endoscope in situs inversus with B-II gastrectomy status seems to be technically safer and easier. In this case, neither a patient nor an endoscopist require any positional change during ERCP. Our case demonstrates that CBD stone removal by EPBD can be safely performed, even in a case of B-II gastrectomy combined with situs inversus totalis.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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