Endoscopic-ultrasound (EUS)-directed transgastric ERCP (EDGE) procedure for the management of choledocholithiasis following Roux-en-Y gastric bypass

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Aims:

The obesity epidemic and the resultant growth in bariatric surgery have led to a unique problem of managing pancreaticobiliary diseases in patients with altered anatomy, particularly after Roux-en-Y gastric bypass (RYGB). Various techniques including enteroscopy-assisted endoscopic retrograde cholangiopancreatography (ERCP)1 and laparoscopy/laparotomy-assisted ERCP2,3 have been developed to address this problem with varying success. More recently, a novel endoscopic-ultrasound (EUS)-directed transgastric ERCP (EDGE) procedure has been described4. Here we present what the authors believe is the first EDGE procedure performed in the United Kingdom.

Methods:

A 69-year-old woman who had undergone a RYGB in 2010 presented with a week-long history of right upper quadrant abdominal pain and jaundice. Laboratory tests showed an elevated alkaline phosphatase of 504 U/L and total bilirubin of 59 umol/L. Magnetic resonance cholangiopancreatography demonstrated an obstructing 2.4cm gallstone within the distal common bile duct (CBD). Percutaneous transhepatic cholangiography was performed with insertion of an internal-external drain. Liver function tests improved but there was persistent sepsis with developing multi-organ failure. After discussion of options, including open bile duct exploration, laparoscopic-assisted ERCP, and EUS-directed transgastric ERCP (EDGE), the EDGE procedure was attempted.

Results:

The gastric pouch was intubated with an Olympus GF-UCT260 echoendoscope and the excluded stomach identified using EUS. This was punctured with a 19G Boston Expect Flex needle and a 0.025 inch Olympus Visiglide wire passed into the duodenum after distension of the stomach with water and contrast. A 20mm Boston Hot AXIOS system was used to access the excluded stomach and the stent was deployed under EUS and screening guidance. The stent was then dilated to 20mm with a Boston CRE balloon and a duodenoscope was advanced through the stent to D2. The CBD was cannulated via a previous sphincterotomy and the cholangiogram showed a 2cm distal stone. Balloon sphincteroplasty was performed to 15mm. The percutaneous drain was removed and multiple CBD balloon trawls were performed to remove the gallstone and pus. On extubation it was noted that the proximal flange of the AXIOS stent had displaced slightly but it was re-positioned using stent grabbers.

Conclusion:

The EDGE procedure is a novel approach to an increasingly common problem of performing ERCP in RYGB patients. To the authors knowledge this is the first EDGE procedure to be performed in the UK.

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