

# A tough scope to swallow: endoscopic retrograde cholangiopancreatography through percutaneous endoscopic gastrostomy

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**Cite this article as:** Amjad W, Hussain Q, Ullah W, Hurairah A. A tough scope to swallow: endoscopic retrograde cholangiopancreatography through percutaneous endoscopic gastrostomy. *Turk J Gastroenterol* 2018; 29: 121-3.

To the editor,

We are presenting a case of oral cancer with choledocholithiasis that was successfully treated with transgastric endoscopic retrograde cholangiopancreatography (ERCP). A 76-year-old female with past medical history of squamous cell cancer of the oral cavity status post hemiglossectomy with left anterolateral free flap, bilateral neck dissections, tracheostomy, and decannulation with gastrostomy tube placement, chemotherapy and radiation therapy presented with epigastric pain for 5 days. She experienced pain was radiating to the right upper quadrant and right flank, which was associated with nausea. Her vital signs were stable. Abdominal examination showed positive Murphy's sign; 18-French (Fr) gastrostomy tube was present in left upper quadrant.

Laboratory tests revealed normal white blood cell count, with mildly elevated liver enzyme levels as follows: aspartate transaminase, 70 U/L; alanine transaminase, 105 U/L; alkaline phosphatase, 325 U/L; total bilirubin, 4.3 mg/dL; and direct bilirubin, 3.8 mg/dL. Computed tomography (CT) of the abdomen and pelvis revealed irregular gall bladder wall thickening, large calcified gall stones, intra and extra hepatic biliary duct dilation, and common bile duct diameter of 1.1 cm. An endoscope (Olympus) was inserted via the oral route, but the esophageal lumen could not be visualized. Subsequently, an adult endoscope was inserted through the gastrostomy. The insertion of scope was resistance-free. On retrograde view, the gastroesophageal junction was visualized and the view of upper esophagus was totally obstructed. Rendezvous procedure

was attempted to reestablish the lumen connection from the esophagus to the hypopharynx but was unsuccessful. The scope was advanced to the duodenum, and the ampulla was visualized. An 18×20-mm esophageal stent (Cook Evolution fully covered stent) was advanced to the stomach with the help of previously placed guide wire under fluoroscopic visualization (Figure 1), 18-20-mm balloon dilator was inserted through the stent, and dilation was performed. A duodenoscope was inserted with gentle pressure and passed through the stent; the scope was advanced to the duodenum. A blush of bile and pus and the ampulla were identified. Biliary cannulation was performed using the wire-guided technique. Cholangiogram revealed a large stone at the cystic duct and a smaller filling defect at the distal common bile duct (CBD) (Figure 2). Sphincterotomy was performed, and a 12-15-mm extractor balloon was advanced over the guidewire into the biliary tree. Balloon sweeps were performed, and a large stone was removed. Contrast, bile, and pus were draining from the biliary tree. Multiple balloon sweeps were performed, and the balloon could sweep through the papilla without resistance. An occlusion cholangiogram showed that the cystic duct stone had migrated toward the gallbladder. The balloon was removed, and a 10-F×9-cm plastic stent was placed into the CBD over the guidewire. The duodenoscope was withdrawn. A 38-Fr gastrostomy tube (Malecot tube) was then placed through the gastrostomy site into the stomach and then exchanged with 28-Fr balloon gastrostomy tube. The patient was successfully extubated and transferred to the recovery room. Patient liver functions improved in 2 days. Laparoscopic cholecystectomy was performed 3 days after ERCP. In-

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Received: August 23, 2017 Accepted: September 1, 2017

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DOI: 10.5152/tjg.2018.17390



Figure 1. Fluoroscopic visualization showing a waist in the stent corresponding to the gastrostomy fistula

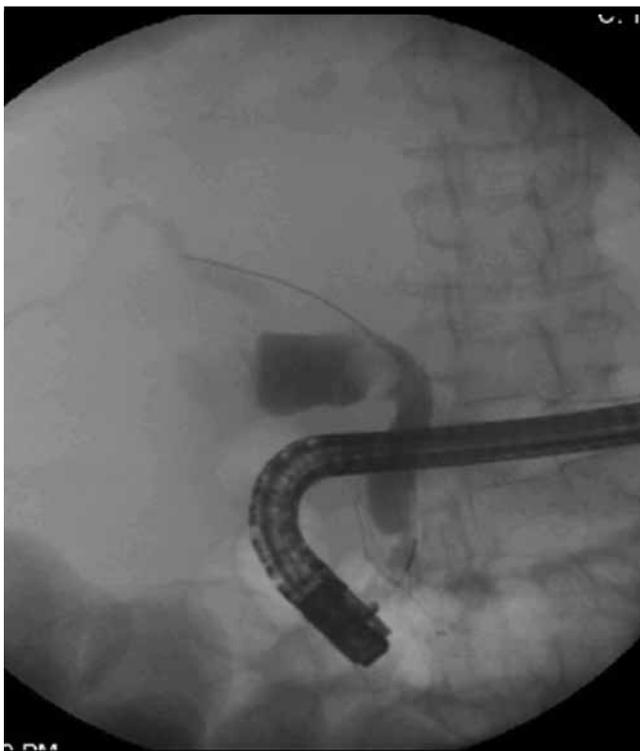


Figure 2. Large filling defect in the cystic duct and a small defect at the distal common bile duct (CBD identified)

formed consent to use the clinical details and images for the publication was obtained.

ERCP is commonly performed via trans-oral or trans-nasal approach. However, in patients with altered anatomy, biliary access may be difficult and challenging (1). Freeman et al. (2) showed that ERCP in patients with normal gastrointestinal (GI) anatomy has the success rate of 95%. Currently, there is no gold standard approach to treat cases of pancreaticobiliary disease with altered anatomy (3). Elective ERCP through the gastrostomy was first described by Baron and Vickers in 1998 (4).

For short-term or long-term feeding, percutaneous endoscopic gastrostomy is considered the method of choice. Common indications are cerebrovascular accident, advanced dementia, motor neuron disorders, head and neck cancers, and Crohn's disease (5). Various techniques, including laparoscopic trans-cystic common bile duct exploration, endoscopic ultrasound guided trans-hepatic ERCP, laparoscopic choledochoduodenoscopy, percutaneous transhepatic cholangiography, balloon enteroscopic ERCP, and laparoscopic transgastric ERCP (LTERCP), are used to access the biliary tree in patients with altered gastrointestinal anatomy (6). Most of the above procedures have are associated with complication rates ranging from 0% to 17% and low success rate in terms of CBD cannulation (6). Compared with other techniques, success rate with LTERCP is above 90% (7,8).

ERCP can be difficult in patients with oral cancers or lesions causing upper gastrointestinal obstruction. Transgastric ERCP is an alternative way to access the ampulla of Vater. It is associated with high success rate in terms of CBD cannulation in patients with altered GI anatomy.

**Informed Consent:** Informed consent obtained from the patient who participated in this study.

**Peer-review:** Externally peer-reviewed.

**Author contributions:** Concept - A.H.; Design - W.A.; Supervision - A.H.; Resource - Q.H.; Materials - W.U.; Data Collection and/or Processing - Q.H.; Analysis and/or Interpretation - W.A.; Literature Search - W.A.; Writing - W.A.; Critical Reviews - A.H., W.U.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study has received no financial support.

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