Sterile laparoscopic transgastric ERCP with single-use disposable duodenoscope

Laparoscopically assisted transgastric endoscopic retrograde cholangiopancreatography (ERCP) is a common interventional procedure in patients with biliary disease and altered anatomy due to Roux-en-Y gastric bypass [1–3]. After access to the stomach, the operation field needs to be widely redraped to proceed with nonsterile ERCP. However, converting from the sterile to a nonsterile setting has become unnecessary with the introduction of single-use disposable duodenoscopes [4, 5]. The entire procedure can now be performed in a sterile manner.

A 66-year-old woman with mild hypertension and diabetes presented with a history of repeated right upper quadrant abdominal pain. She had undergone cholecystectomy 30 years earlier for gallstone with biliary colic. In addition, she had a laparoscopic Roux-en-Y gastric bypass performed 13 years earlier, with successful weight loss and no postoperative complications. Magnetic resonance cholangiopancreatography revealed an 8-mm calculus in the common bile duct (CBD) (Fig. 1).

An elective laparoscopic transgastric ERCP using the single-use/disposable duodenoscope (Exalt Model D; Boston Scientific Corporation, Marlborough, Massachusetts, USA) was planned. The operation was performed with the patient under general anesthesia. Laparoscopically, a 15-mm trocar was placed under the left costal arch and into the bypassed stomach and fixed with sutures (Fig. 2). Seamlessly, the procedure continued in the sterile setting with unpacking of the sterile duodenoscope.

Fig. 1 Magnetic resonance cholangiopancreatography shows the stone in the common bile duct.

Fig. 2 A 15-mm trocar was placed under the left costal arch to enter the stomach.

Fig. 3 Unpacking the sterile duodenoscope.
The duodenoscope was introduced through the port (Fig. 4) and advanced to the duodenum. The CBD was cannulated, and the cholangiogram confirmed the presence in it of a bile stone. A sphincterotomy was performed, and the stone was extracted with a balloon catheter (Video 1). After the ERCP, the 15-mm port was removed and the gastrotomy sutured. Operative time was less than 1 h. The postoperative course was uneventful, and the patient was discharged after 24 h.

Our case demonstrates a successful transgastric ERCP procedure using the new single-use/disposable duodenoscope, thus introducing the possibility of performing this type of procedure in a completely sterile manner, reducing the risk of contamination and infection. This opens up new prospects in the use of single-use endoscopes, where the sterility of the scopes becomes a substantial asset.

Endoscopy_UCTN_Code_TTT_1AU_2AC

Competing interests

The authors declare that they have no conflict of interest.

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