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Difficult removal of an endoscopic nasobiliary drainage tube after laparoendoscopic rendezvous surgery

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Case report
A 52-year-old female patient came to our hospital with upper abdominal pain for more than four days. Magnetic resonance cholangiopancreatography confirmed gallstones, common bile duct dilatation and suspected choledocholithiasis (Figure 1A). After recommended preoperative preparation, the patient underwent laparoscopic cholecystectomy and intraoperative endoscopic retrograde cholangiopancreatography (ERCP), also called laparoendoscopic rendezvous surgery (LERV). During the surgery, sand-like stones were successfully removed from the common bile duct (Figure 1B). Following confirmation of stone clearance, an endoscopic nasobiliary drainage (ENBD) tube with a pigtail shape was temporarily placed in the common bile duct. Extubation is routinely done at this time in our center if post-ERCP pancreatitis or hyperamylasemia are excluded. However, we
found that the tube could not be removed from the patient due to strong resistance. As shown in Figure 1C, the distal end of the ENBD tube had unexpectedly slipped off the common bile duct and dislocated in the small intestine. Moreover, a hairpin-like structure had formed in the distal end of the tube. The endoscopic image showed that the tube was almost embedded in the descending duodenum (Figure 1D). Fortunately, there was no ulcer in the intestinal canal. The tube was subsequently pulled out by using endoscopic biopsy forceps. The patient was finally discharged on the 5th day after the LERV surgery.

Discussion
ENBD has become a key approach for clinical biliary drainage during ERCP [1, 2]. However, there are drawbacks to the ENBD technique, including esophageal ulcers, nose pressure sores, posterior pharynx inflammation, vocal fold granulations and injuries [3, 4]. Dislocation and migration of the drainage catheter are common, and the tube may become kinked, incarcerated [5], blocked or accidentally pulled out by a patient with poor tolerance. These drawbacks have been associated with long-term tube placement. Therefore, early extubation can reduce the complications related to ENBD tubes.

References

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Figure 1. (A) Magnetic resonance cholangiopancreatography showed: gallbladder enlargement, gallstones, light degree dilation of intrahepatic bile duct, common bile duct dilatation and suspected choledocholithiasis. (B) Intra-operative endoscopic retrograde cholangiopancreatography confirmed that sand-like stones were in common bile duct. (C) X-ray indicated that the distal end of the endoscopic tube was located in small intestine and formed a hairpin-like structure. (D) The endoscopic nasobiliary drainage was pulled out under enteroscope.