

A new closure method in NOTES

“NOTES” da yeni kapatma tekniği

To the Editor,

“Natural Orifice Transluminal Endoscopic Surgery” (NOTES) refers to a new surgical procedure that uses flexible endoscopes in the abdominal cavity via an external orifice of the body, such as the mouth, vagina or anus (1). Despite the many advantages of this technique, the secure closure of the gastric or colonic walls is still problematic (2). In this study, we aimed to evaluate the feasibility and safety of hybrid transgastric NOTES cholecystectomy and a new method of closure of the gastric wall.

We performed transoral cholecystectomy on two swine. The animals were fasted for 48 hours before the procedure. Pre-anesthesia sedation consisted of ketamine 2 mg/kg; general anesthesia was achieved with isoflurane. The procedure was carried out under preventive administration of antibiotics and proton pump inhibitor (3). We used a therapeutic single-channel gastroscope (Olympus GIF XQ 230). Gastric access was created by balloon dilatation of a needle knife puncture up to 18 mm. Laparoscopic access to the abdominal cavity was obtained by two 2 mm optical trocars (3,4). Under intra-abdominal laparoscopic guidance, firstly the gallbladder was reached by endoscope; the cystic duct and artery were located. Secondly, the cystic duct and artery were clipped endoscopically using Olympus Endoclips. Thirdly, these parts were cut via coagulation using argon-laser coagulation (Erbe ICC-200). After laparoscopic dissection of the specimen, the gallbladder was entrapped by file forceps, and the gallbladder was subsequently extracted via the mouth.

For endoscopic closure, we used a varices band ligation device and Endoloop wire forceps (Olympus HX-400U-30 PolyLoop). After the band ligation device was inserted in the distal end of the endoscope, two or three band ligations were performed to the mucosa of both edges of the gastric closure (Figure 1A). Subsequently, the Endoloop guidewi-

re was inserted over the top of all sites of mucosal ligation, and then the Endoloop wire was stretched (Figure 1B). We have termed this method as the Yeditepe closure method. The procedure times

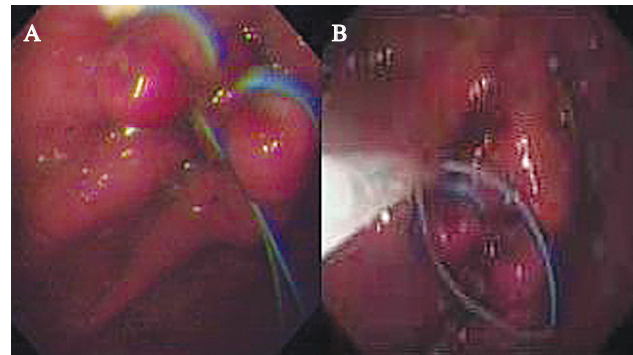


Figure 1. (A, B) Band ligation and endoloop stretching.

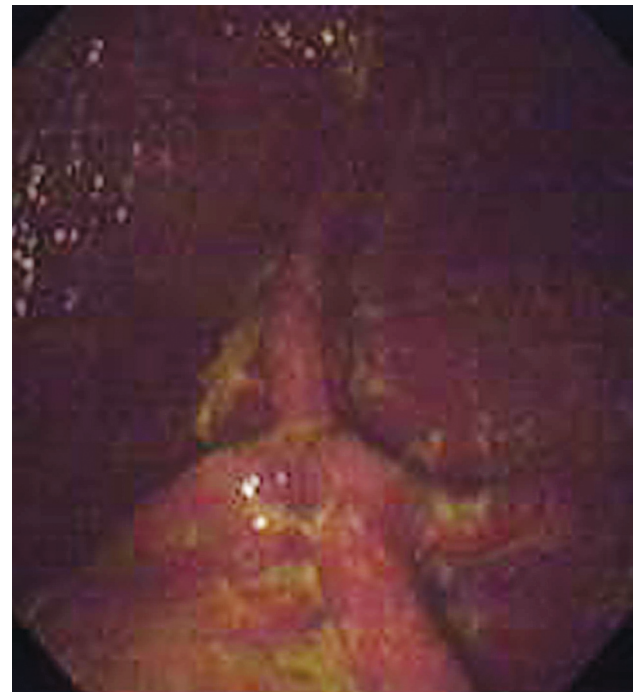


Figure 2. Endoscopic visualization on postoperative 40th day.

were recorded as 106 and 84 minutes, respectively, and the closure times as 11 and 8 minutes, respectively. At endoscopic visualization 40 days after surgery, there were no signs of (infectious) complications, and the site of gastric closure of the stomach was normal (Figure 2).

Our initial experience with porcine hybrid transgastric NOTES cholecystectomy showed that this method seems to be feasible and safe in spite of technical limitations. This admittedly small study

further supports previous reports suggesting the same results. Histology- confirmed full-thickness healing with 100% success is necessary to claim that this method should be applied.

In conclusion, by means of the presented technique, a rapid, easy and cheap closure method seems to be available in combination with NOTES. It is a promising new technology that requires further fine-tuning before it can be safely applied in the clinical setting.

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Gastrointestinal stromal tumor perforation in a case with neurofibromatosis presenting with abdominal pain

Karın ağrısıyla başvuran nörofibromatozisli olguda gastrointestinal stromal tümör perforasyonu

To the Editor,

Neurofibromatosis type 1 (NF-1), a rare genetic disease with autosomal dominant inheritance and characterized by cutaneous and glial fibromas, café-au-lait spots, axillary and inguinal freckles, Lisch nodules in the iris, and various bone abnormalities, is caused by a defective NF-1 gene. Incidence of somatostatinoma, carcinoid tumor, adenocarcinoma, and especially gastrointestinal stro-

mal tumor (GIST) is increased in patients with NF-1 (1,2).

A 50-year-old female patient was admitted to our hospital for abdominal pain and diarrhea for six months. Physical examination was remarkable for presence of elevated neurofibromas of skin, café-au-lait spot, axillary freckles, and Lisch nodules in the iris. Hemoglobin value was 6.83 g/dl. Compute-

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