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Novel and effective countertraction using a ring-shaped thread for safer gastric and colorectal endoscopic submucosal dissection

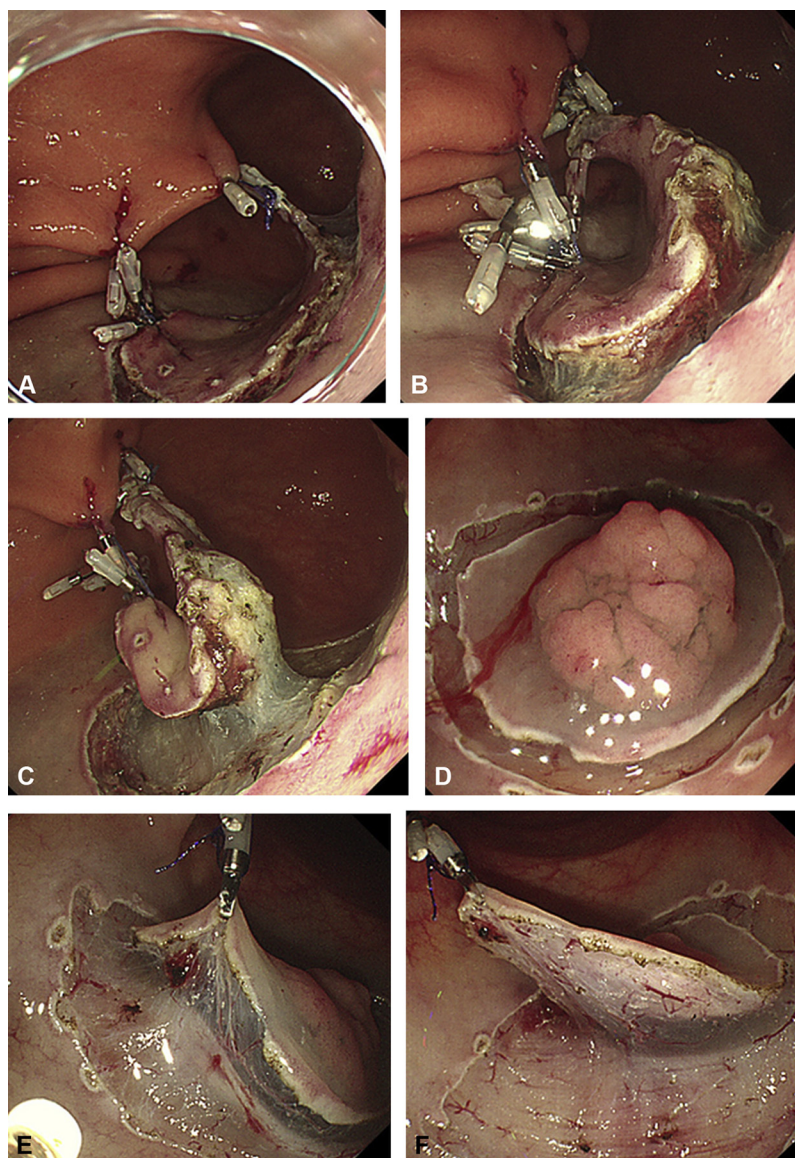


Figure 1. **A**, Two 10-mm ring threads were inserted into the stomach for clipping both of the affected sides of greater curvature and contralateral side; thereby, the lesion was lifted. **B**, By using local injection and CO₂ insufflation, we obtained sufficient bulging; there were no adverse events and also no limitations on the location of lesion wherever the ring-shaped thread was clipped at the edge of resected lesion, and lifted up to the contralateral gastric mucosa. **C**, By air insufflation, stronger countertraction was obtained. The only pitfall was that the thread had to be hooked and lifted up under deflation to obtain stronger countertraction by subsequent insufflation. **D**, The lesion was in the lower rectum. **E**, Because it was difficult to obtain sufficient bulging by local injection, an 8-mm ring-shaped thread was placed and lifted up the edge of the lesion. **F**, In proportion to the amount of insufflated and deflated CO₂, it was possible to adjust the strength of countertraction with the ring-shaped thread.



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Because the delivery and ease of use for safer endoscopic submucosal dissection (ESD) cannot yet be attained, a simple and effective countertraction is necessary (Video 1, available at www.giejournal.org). A 58-year-old man received a diagnosis of early gastric cancer. ESD was performed but gravity made it difficult to continue. Two 10-mm ring threads were inserted into the stomach for clipping both the affected side and the contralateral side, thereby lifting the lesion (Figs. 1A and B). Countertraction was applied by air insufflation (Fig. 1C), which made ESD easier and safer. In a 62-year-old woman diagnosed with early rectal cancer, it was difficult to initiate ESD because there was no entry space. An 8-mm ring-shaped thread was inserted into the rectum (Figs. 1D and E). Sufficient countertraction was obtained by adjusting the amount of CO₂ (Fig. 1F).

The basic principle is to create stronger countertraction using expanding force by insufflation, which is quite

different from other mechanical tractions such as the clip-with-line method used by Oyama et al, making it more suitable for difficult situations with severe fibrosis under which stronger countertraction by insufflation allows for placing the cutting line between the submucosa and the muscularis propria.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

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Transhepatic tract for visualization of the remnant stomach after Roux-en-Y gastric bypass



The patient had a history of multiple abdominal surgical procedures and recurrent ventral hernia (Fig. 1A). Therefore, the usual methods of CT-guided or laparoscopic-assisted access to the gastric remnant was not possible without extensive adhesiolysis. We offered a novel technique to access and evaluate symptomatic iron deficiency anemia that was not responsive to oral replacement. The procedure was performed in 2 stages. The patient was positioned supine while under general anesthesia. US was used to evaluate segment V, but no bile ducts were visible. The 2 visible branches of the segment 5 portal vein were used as landmarks. After 1 puncture through the capsule with a 21-G Chiba needle (Cook Medical, Bloomington, Ind) and intrahepatic reposi-

tioning of the needle tip, a small bile duct was partially entered. Contrast medium was injected to opacify the ducts while a fluoroscopically guided puncture with a second 21-G needle was made into a more central portion (Fig. 1B). A 0.018-inch nitinol wire (Cook Medical, Bloomington, Ind) was passed into the duodenum. A 6-F triaxial introducer set (Vascular Solutions, Maple Grove, Minn) was placed over the small wire, and a second 0.035-inch wire was placed into the duodenum. The transhepatic tract was dilated to accommodate a 12-F sheath (Fig. 1C). A 10-F 60-cm pediatric bronchoscope (BF-XP190, Olympus, Center Valley, Pa) was able to loop back into the proximal duodenum but was too short to reach the gastric remnant. In addition, the transhepatic tract was seen to traverse a small hepatic vein branch. It was elected not to further dilate the tract, and a 14-F internal-external drain was placed to allow the transhepatic tract to mature. Two weeks later, with the patient under monitored anesthesia care, the biliary drainage catheter was replaced with a 14-F sheath (Cook Medical). Catheters and wires were looped in the duodenum, and a stiff wire was curled in the gastric remnant. The Spyglass (10-F, 231-cm working



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