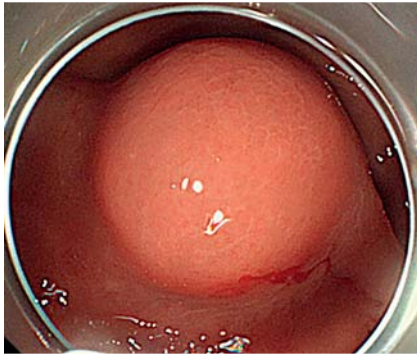
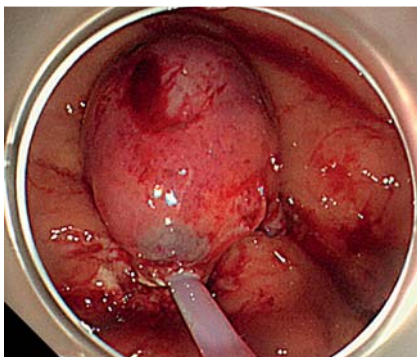


Snare traction and endoscopic suturing can improve endoscopic management of gastrointestinal stromal tumors at the gastric greater curvature

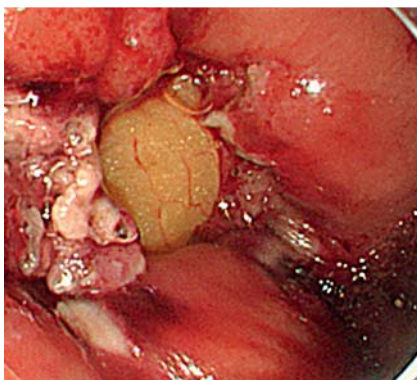
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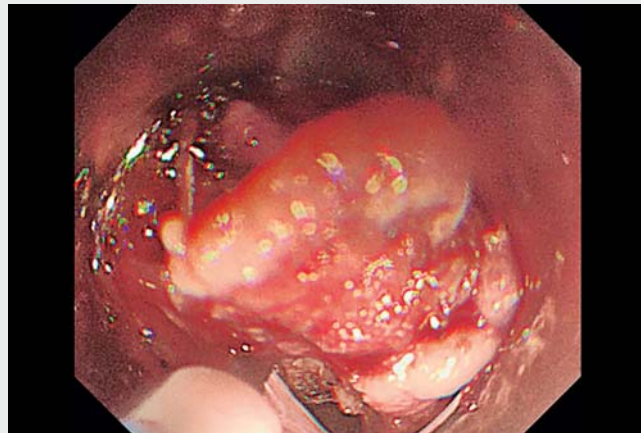
► **Fig. 1** The location of the gastric gastrointestinal stromal tumor was difficult for endoscopic management.



► **Fig. 2** The snare traction was built to assist our dissection.



► **Fig. 3** The omental fat could be seen after the tumor was resected.



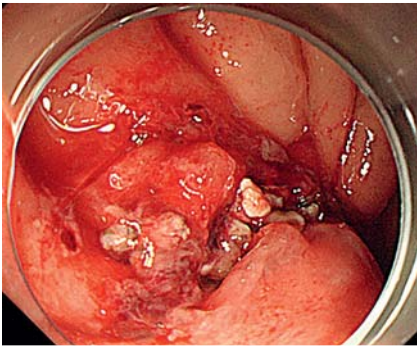
► **Video 1** Endoscopic suturing system can change endoscopic management of gastric gastrointestinal stromal tumors at greater curvature.

Endoscopic management of gastric gastrointestinal stromal tumors (GISTs) is challenging because of possible unmanageable perforation. Submucosal tunneling endoscopic resection (STER) can maintain the mucosal flap to facilitate wound closure [1]. To maintain the serosa, endoscopic subserosa dissection can prevent air leakage [2]. Both require precise endoscopic dissection to preserve mucosa or serosa and are only feasible in favorable endoscopic anatomy. If the large perforation can be managed confidently, we can do whole-layer resection directly [3].

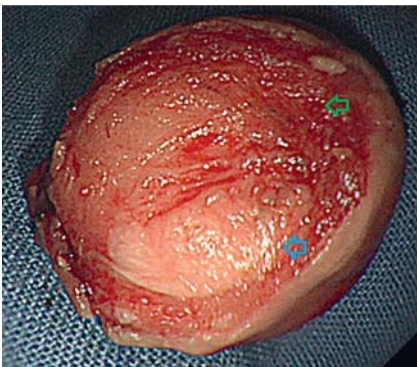
The 80-year-old patient had a growing gastric myogenic tumor in the greater curvature (GC) of the upper body (► **Fig. 1**). The anatomy is challenging for endoscopic resection because of the approach angle. We decided to do wide-field endoscopic full-thickness resection (EFTR) followed by endoscopic suturing. First, we separated the tumor from the gastric wall by whole-layer dissection of the gastric wall around the tumor. Then the tumor was resected from the remain-

ing attached gastric wall with snare resection (► **Video 1**). Traction with a snare from the additional gastroscope was built to facilitate resection (► **Fig. 2**). Air leakage was controlled by changing the patient's position. All the blood clots and fluid in the peritoneum were removed to maintain peritoneal hygiene (► **Fig. 3**). The wound was closed in a z-shaped suture for eight bites with Overstitch Sx (Apollo Endosurgery, Austin, Texas, USA) (► **Video 1**, ► **Fig. 4**). The final pathology was a complete resected GIST with muscle, serosa, and mucosa (► **Fig. 5**). The post-procedure course was smooth with 5 days of antibiotics. Diet was resumed 2 days after the procedure.

Instead of delicately maintaining the mucosal flap and separating the tumor and serosa in the gastric GC, whole-layer dissection is a less demanding technique and resects more tissue for a safe margin. The suturing system with reliable whole-layer wound closure can allow endoscopists to do wide-field EFTR in challenging anatomy.



► **Fig. 4** The perforation was fully closed with Overstitch.



► **Fig. 5** The specimen resected contained tumor, mucosa, serosa (blue arrow), and muscle (green arrow).

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Competing interests

The authors declare that they have no conflict of interest.

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References

- [1] Chen T, Zhou PH, Chu Y et al. Long-term outcomes of submucosal tunneling endoscopic resection for upper gastrointestinal submucosal tumors. *Ann Surg* 2017; 265: 363–369
- [2] Liu F, Zhang S, Ren W et al. The fourth space surgery: endoscopic subserosal dissection for upper gastrointestinal subepithelial tumors originating from the muscularis propria layer. *Surg Endosc* 2018; 32: 2575–2582
- [3] Aslanian HR, Sethi A. ASGE Technology Committee. et al. ASGE guideline for endoscopic full-thickness resection and submucosal tunnel endoscopic resection. *VideoGIE* 2019; 4: 343–350

Bibliography

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