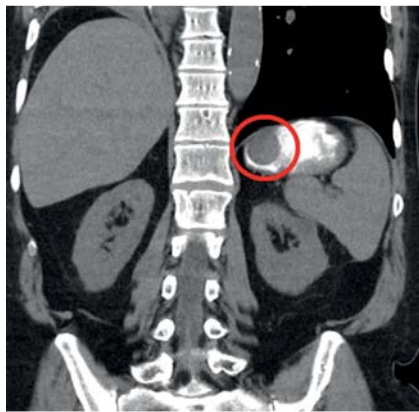


Endoscopic full-thickness resection with omental patch closure for a gastric stromal tumor in the gastric cardia

Gastrointestinal stromal tumors (GISTs) of ≥ 2 cm should be resected because of their malignant potential [1]. Recently, endoscopic techniques for en bloc resection of GISTs have been described, including endoscopic submucosal dissection (ESD) and full-thickness resection



► **Fig. 1** Coronal view of a computed tomography scan of the abdomen showing a mass in the gastric cardia.

(EFTR). Closure of the resection site, usually accomplished with clips or endoscopic suturing, is paramount to avoid peritonitis [2, 3]. Prior feasibility studies have shown that omental patch closure appears to be effective for closure of gastric perforations [4, 5]. Data on the use of this technique for the closure of defects after EFTR in the gastric cardia are not yet available.

We describe the case of an 82-year-old man with a gastric cardia mass found on a computed tomography (CT) scan of the abdomen (► **Fig. 1**). Upper gastrointestinal endoscopy and endosonography showed a subepithelial mass arising

from the muscularis propria (► **Fig. 2**). Fine needle biopsy confirmed the diagnosis of a GIST.

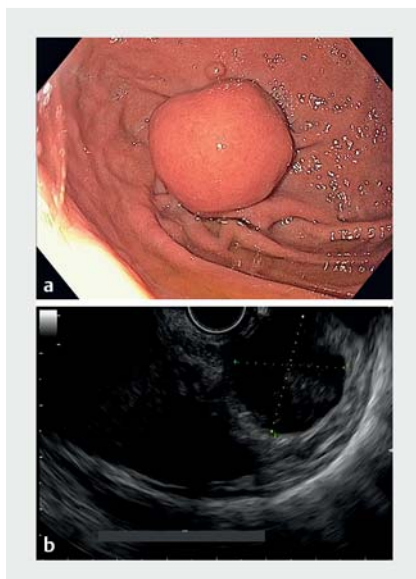
The mass was approached in retroflexed fashion for a standard ESD technique and it was evident that part of the mass was clearly originating from the muscularis propria. The mass was then dissected off the muscularis propria, leaving approximately a 12-mm defect in the muscularis propria and another smaller defect lateral to this. The defects could not be reliably closed with endoscopic suturing owing to their difficult location. A double-channel endoscope and forceps were used to pull omental fat through the larger muscular defect and this was patched to the gastric mucosa using multiple through-the-scope clips (Resolution; Boston Scientific, Marlborough, Massachusetts, USA) (► **Fig. 3**; ► **Video 1**). The smaller muscular defect was closed using endoscopic suturing (Apollo Endosurgery, Austin, Texas, USA). Pathology showed a GIST with negative margins (► **Fig. 4**). The patient had no adverse events and there has been no recurrence over a follow-up period of 14 months.

After en bloc EFTR of a gastric GIST in a difficult location, such as the gastric cardia, a combination of omental patch closure and endoscopic suturing is a feasible method for defect closure.

Endoscopy_UCTN_Code_CPL_1AH_2AZ

Competing interests

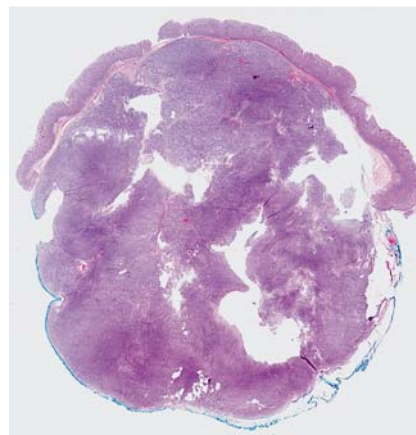
Mouen A. Khashab is a consultant and on the medical advisory board for Boston Scientific and Olympus America. Vivek Kumbhari is a consultant for ReShape Life Sciences, Apollo Endosurgery, Medtronic, and Boston Scientific, and receives consulting fees from Pentax Medical and C2 Therapeutics. Anthony N. Kalloo is a founding member and equity holder for Apollo Endosurgery. The other authors have nothing to declare. There is no funding support related to this submitted manuscript.



► **Fig. 2** The mass in the gastric cardia is seen: **a** endoscopically; **b** on endosonographic view, with the mass shown to be originating from the muscular layer.



► **Fig. 3** Endoscopic view showing the defect being closed using an omental patch.



► **Fig. 4** Histologic appearance showing an en bloc resection of the gastric cardia mass.



Video 1 Endoscopic full-thickness resection of a 3-cm stromal tumor in the gastric cardia, followed by a combination of endoscopic suturing and omental patch closure of the resulting defects.

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DOI <https://doi.org/10.1055/a-0885-9031>
Published online: 16.5.2019
Endoscopy 2019; 51: E278–E279
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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