Omental patch-assisted endoscopic closure of the transmural defect after endoscopic removal of a 40-mm gastric gastrointestinal stromal tumor

A 55-year-old woman with a gastric subepithelial lesion (SEL) was referred for treatment. Endoscopic ultrasound (EUS) revealed a 38 × 31-mm hypoechogenic lesion, originating in the muscularis propria, suggestive of a gastrointestinal stromal tumor (GIST). Computed tomography excluded extramural or metastatic disease. Gastroscopy revealed a 40-mm SEL in the greater curvature of the proximal gastric body (▶ Fig. 1a). Exposing endoscopic full-thickness resection (EFTR) by endoscopic submucosal dissection was then performed. After lesion marking and submucosal injection (Gelofusine, indigo carmine, and adrenaline 1:100000) had been performed, the mucosal incision and submucosal dissection were started from the pyloric side of the lesion. After reaching the lesion, a circumferential mucosal incision was completed, followed by tissue traction (clip-and-snare method) to allow better exposure of the submucosal plane. Progressive submucosal dissection was performed around the SEL until the portion attached to the muscularis propria was isolated (▶ Fig. b). This attachment was then divided at the serosal level to achieve successful en bloc resection. As expected, a 25-mm transmural defect was evident (▶ Fig. 1c). First, a 20-mm through-the-scope (TTS) clip was placed onto the normal tissue to oppose the defect edges and raise a tissue mound. A TTS clip was then used to pull the omentum into the gastric cavity and create an omental patch (▶ Fig. 1d). TTS clips were used to secure the omentum and oppose the defect edges in a zipper fashion (▶ Fig. 1e; ▶ Video 1). The patient was pain-free post-procedure and was discharged 2 days later. No adverse events occurred. Endoscopic resection of gastric GISTs is considered a valid and safe alternative to surgery [1, 2]. A potential limitation of this technique may be the challenge of closing a wide full-thickness defect. As we present here, one option is the use of an omental patch, which may allow the successful closure of larger defects.

Conflict of Interest

M.J. Bourke has received research support from Olympus, Cook Medical, and Boston Scientific. R. Medas, J.L. Gauci, C. Kerrison, F.V. Mandarino, A. Whitfield, and N.G. Burgess declare that they have no competing interests.

> Fig. 1  Endoscopic views showing: a a 40-mm subepithelial lesion located in the greater curvature of the proximal gastric body; b the partially dissected subepithelial lesion, attached only by the muscularis propria on the pyloric side; c the resection bed, with a 25-mm transmural defect and omental fat visible underneath; d the omentum being grasped with a through-the-scope (TTS) clip and pulled into the gastric cavity to create an omental patch; e complete defect closure using the omental patch and seven TTS clips.

> Video 1  Omental patch-assisted endoscopic closure of a transmural defect, using through-the-scope clips, after endoscopic full-thickness resection of a 40-mm gastric gastrointestinal stromal tumor.
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