

Endoscopic ultrasound-guided gastroenterostomy using a lumen-apposing self-expanding metal stent for decompression of afferent loop obstruction

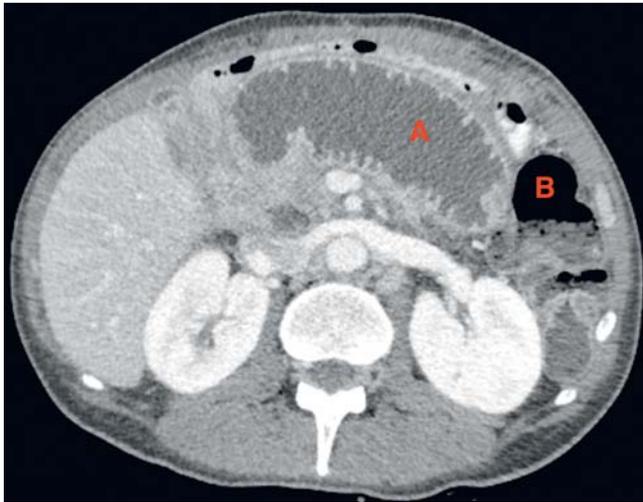


Fig. 1 Computed tomography scan revealed a dilated afferent loop (A) in direct apposition with the stomach (B).

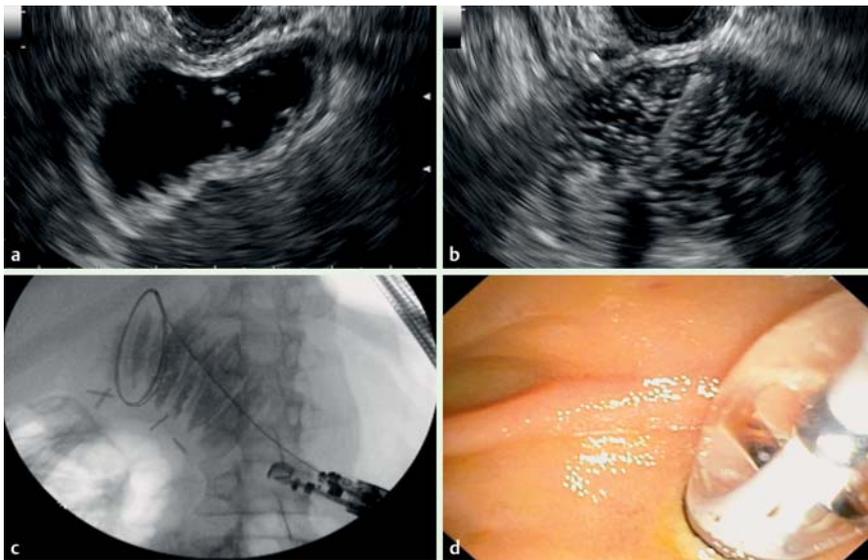


Fig. 2 Endoscopic ultrasound-guided puncture. **a** Dilated afferent limb. **b** Puncture using a 19-gauge needle and injection of contrast. **c** Insertion of a guidewire, with fluoroscopic confirmation. **d** Creation of gastroenterostomy tract using a 4-mm dilation balloon.

Acute afferent loop syndrome following pancreaticoduodenostomy is generally caused by mechanical occlusion due to pancreatic cancer recurrence. Historically, it has been treated with palliative surgical bypass [1–5]. A retrograde endoscopic approach with placement of an enteral metal stent across the afferent limb stricture is often not possible [2]. We report the first case series of endoscopic ultrasound (EUS)-guided gastrojejunostomy using a lumen-apposing, self-expanding, metal stent (LASEMS) for therapy of acute afferent loop syndrome.

Three patients who had previously undergone a pancreaticoduodenostomy for pancreatic cancer presented with acute abdominal pain and vomiting. Computed tomography revealed dilation of the afferent loop caused by bowel obstruction due to cancer recurrence (Fig. 1).

All three patients underwent successful EUS-guided gastroenterostomy using LASEMS. The dilated afferent limb was located endosonographically by an echoendoscope in the stomach. The obstructed afferent limb was then punctured using a 19-gauge EUS needle. Con-

trast was injected through the 19-gauge needle into the dilated afferent limb to confirm the position, and a 0.035-inch guidewire was introduced through the needle and coiled into the obstructed afferent limb. Needle-knife cautery was used to make an incision into the fistula tract, and then a 6-mm balloon was used to dilate the tract (Fig. 2, Video 1). A 15 mm × 10 mm LASEMS (Axios; Boston Scientific Corp., Marlborough, Massachusetts, USA) was then deployed under fluoroscopic guidance across the tract, resulting in apposition between the dilated afferent limb and the stomach wall. A 15-mm balloon was then used to dilate the tract within the lumen of the LASEMS to create an endoscopic gastrojejunostomy for drainage of the obstructed afferent limb (Fig. 3, Video 1).

All three patients had resolution of clinical symptoms (Fig. 4) and were discharged. This series demonstrates that EUS-guided gastroenterostomy involving LASEMS placement offers a safe, technically feasible, and clinically successful endoscopic method of management for acute afferent loop obstruction.

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Competing interests: None

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Video 1



Endoscopic ultrasound-guided gastroenterostomy and placement of a lumen-apposing, self-expanding, metal stent for decompression of afferent loop obstruction.

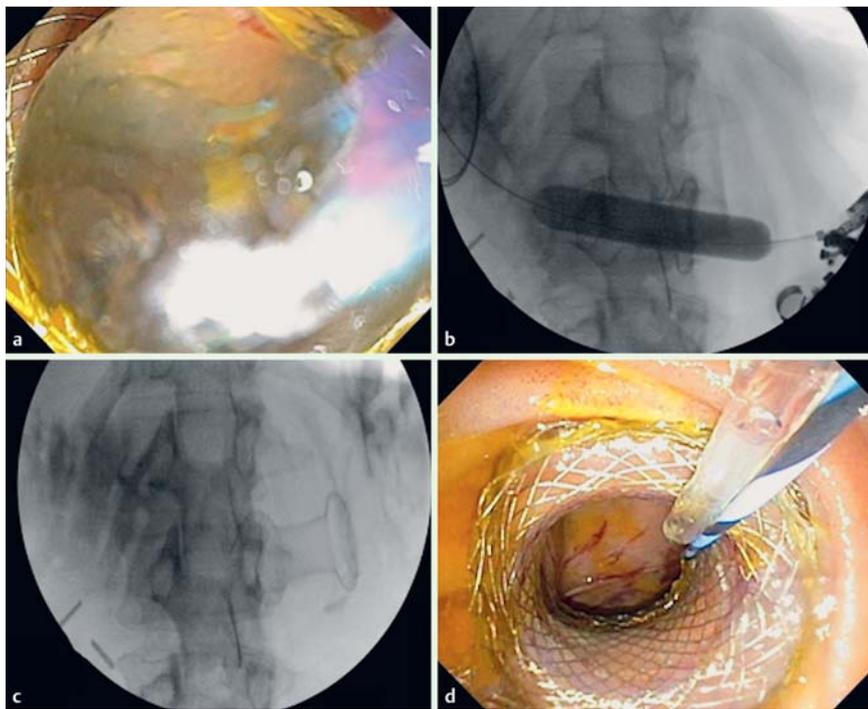


Fig. 3 Placement of a lumen-apposing, self-expanding, metal stent (LASEMS). **a** The LASEMS was dilated using a 15-mm controlled radial expansion balloon. **b** Fluoroscopic confirmation of dilation through the LASEMS. **c** Fluoroscopic image of the LASEMS after dilation. **d** The LASEMS in the fistula tract after balloon dilation.



Fig. 4 Computed tomography confirmed decompression of the afferent limb and placement of the lumen-apposing, self-expanding, metal stent.

References

- 1 Eagon JC, Miedema BW, Kelly KA. Postgastrectomy syndromes. *Surg Clin North Am* 1992; 72: 445–465
- 2 Pannala R, Brandabur JJ, Gan SI et al. Afferent limb syndrome and delayed GI problems after pancreaticoduodenectomy for pancreatic cancer: single-center, 14-year experience. *Gastrointest Endosc* 2011; 74: 295–302
- 3 Sanada Y, Yamada N, Taguchi M et al. Recurrent cholangitis by biliary stasis due to non-obstructive afferent loop syndrome after pylorus-preserving pancreaticoduodenectomy: report of a case. *Int Surg* 2014; 99: 426–431
- 4 Aimoto T, Uchida E, Nakamura Y et al. Malignant afferent loop obstruction following pancreaticoduodenectomy: report of two cases. *J Nippon Med Sch* 2006; 73: 226–230
- 5 Caldicott DG, Ziprin P, Morgan R. Transhepatic insertion of a metallic stent for the relief of malignant afferent loop obstruction. *Cardiovasc Intervent Radiol* 2000; 23: 138–140

Bibliography

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