

Successful endoscopic closure of a gastrocutaneous fistula using a 'Padlock Clip'



Fig. 1 Gastrocutaneous fistula (black arrow), cutaneous side. The external appearance shows associated chemical excoriation of the skin by leakage of gastric contents.

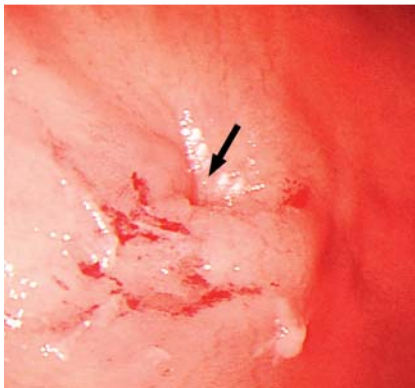


Fig. 2 Gastrocutaneous fistula (black arrow), gastric side, endoscopic view.

A 27-year-old woman with severe neurological disability and portal hypertension secondary to Wilson's disease was referred for endoscopic closure of a chronic gastrocutaneous fistula following the removal of a percutaneous endoscopic gastrostomy (PEG) tube 8 months previously (▶ **Fig. 1**). The patient suffered from skin denudation caused by leakage of gastric secretions. At upper gastrointestinal endoscopy, the gastric side of the fistula was identified on the anterior wall of the stomach (▶ **Fig. 2**).

Using a circular Padlock Clip and its dedicated Lock-It delivery system (Aponos Medical Corp., Kingston, New Hampshire, USA) mounted onto a gastroscope (▶ **Fig. 3**), the gastric side fistula margins (▶ **Fig. 4a**) were drawn into the plastic



Fig. 3 Padlock Clip seen mounted onto a gastroscope alongside its dedicated Lock-It delivery system (Aponos Medical Corp., Kingston, New Hampshire, USA).

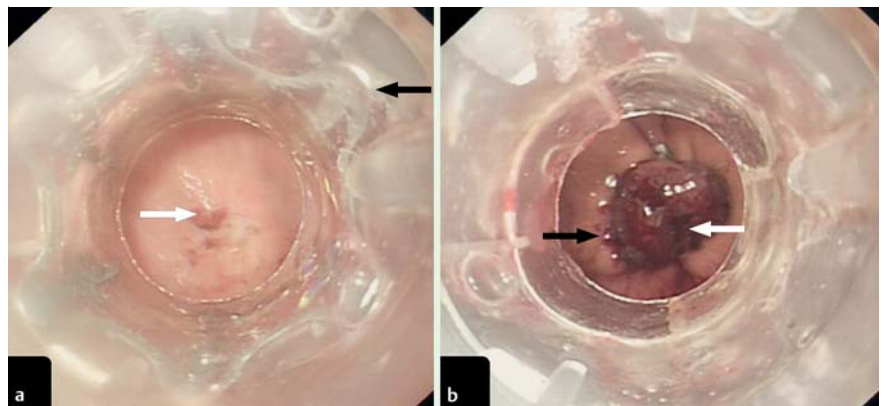


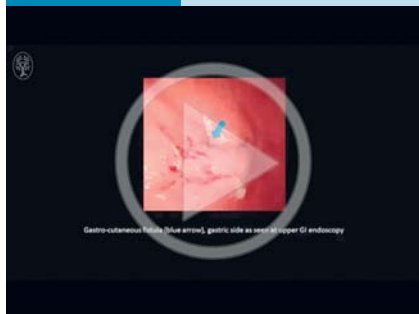
Fig. 4 Endoscopic view of clip (black arrow) deployment for closure of the gastrocutaneous fistula (white arrow). **a** The fistula before being drawn into the plastic tissue chamber of the clip delivery system by endoscopic suction. **b** After deployment of the Padlock Clip (Aponos Medical Corp., Kingston, New Hampshire, USA).

tissue chamber of the device by endoscopic suction. The Padlock Clip was then deployed once the margins were completely within the tissue chamber, successfully closing the fistula in a circular fashion (▶ **Fig. 4b**, ▶ **Video 1**). After the procedure, cross-sectional imaging confirmed successful closure of the fistu-

la without leakage of luminal contrast (▶ **Fig. 5**).

Persistent iatrogenic gastrocutaneous fistulas are an uncommon, albeit well-recognized complication of PEG placement and removal [1]. In recent years, a "bear-claw" type, over-the-scope-clip system (OTSC; OverSCO AG, Tübingen, Germany) has been

Video 1



Gastrocutaneous fistula closure using an endoscopically deployed Padlock Clip (Aponos Medical Corp., Kingston, New Hampshire, USA).

shown to be safe and effective for linear closure of a variety of fistulae and perforations [2,3]. The newly developed Padlock Clip, although based on a very similar principle to that of the OTSC, uses a circumferential 6-pronged design for radial compression of tissue to effectively and safely close a defect in a similar fashion to a purse-string suturing technique [4].

To the best of our knowledge, this is only the second [5] clinical description of effective closure of a PEG-related persistent gastrocutaneous fistula using a Padlock Clip. In selected cases, the Padlock Clip may represent another endoscopic, minimally invasive and cost-effective alternative to surgery for closure of tissue defects and fistulas within the gastrointestinal tract.

Endoscopy_UCTN_Code_TTT_1AO_2AI

Competing interests: None



Fig. 5 Sagittal computed tomographic scan images. **a** Before closure of the gastrocutaneous fistula (white arrow). **b** 12 months after closure using the Padlock Clip (Aponos Medical Corp., Kingston, New Hampshire, USA) (white arrow).

James H. Brindley¹, Benjamin Yip¹, Erasmia Vlachou¹, Peter Wylie², Edward J. Despott¹

¹ Royal Free Unit for Endoscopy and Centre for Gastroenterology, UCL Institute for Liver and Digestive Health, Royal Free London NHS Foundation Trust, London, United Kingdom

² Department of Radiology, The Royal Free Hospital and UCL School of Medicine, Royal Free London NHS Foundation Trust, London, United Kingdom

References

- 1 Hameed H, Kalim S, Khan YI. Closure of a nonhealing gastrocutaneous fistula using argon plasma coagulation and endoscopic hemoclips. *Can J Gastroenterol* 2009; 23: 217–219
- 2 Parodi A, Repici A, Pedroni A et al. Endoscopic management of GI perforations with a new over-the scope clip device (with video). *Gastrointest Endosc* 2010; 72: 881–886
- 3 Mönkemüller K, Sarker S, Baig KR. Endoscopic creation of an omental patch with an over-the-scope clip system after endoscopic excavation and resection of a large gastrointestinal stromal tumor of the stomach. *Endoscopy* 2014; 46 (Suppl. 01): E451–E452

4 Desilets DJ, Romanelli JR, Earle DB et al. Gastrostomy closure with the lock-it system and the Padlock-G clip: a survival study in a porcine model. *Laparosc Adv Surg Tech A* 2010; 20: 671–676

5 Abraham A, Vasant DH, McLaughlin J et al. Endoscopic closure of a refractory gastrocutaneous fistula using a novel over-the-scope Padlock clip following de-epithelialisation of the fistula tract. *BMJ* 2015. DOI: 10.1136/bcr-2015-211242

Bibliography

DOI <http://dx.doi.org/10.1055/s-0042-103422>
Endoscopy 2016; 48: E115–E116
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

Corresponding author

Edward J. Despott, MD, MRCP

Royal Free Unit for Endoscopy
 UCL Institute for Liver and Digestive Health
 Royal Free London NHS Foundation Trust
 Pond Street, Hampstead
 London NW3 2QG
 United Kingdom
 Fax: +44-207-4315261
 edespott@doctors.org.uk