Closure of non-healing gastrocutaneous fistula after percutaneous endoscopic gastrostomy by endoscopic submucosal dissection and over-the-scope clip

Fistulous leakage after percutaneous endoscopic gastrostomy (PEG) removal is a common adverse event occurring in around 25% of patients and requiring surgery in 13% of patients [1]. Conservative treatment with stomach emptying, silver nitrate, changing of the tube, and promotility agents are usually offered first. Previously persistent fistulas were usually closed surgically, but a variety of different endoscopic techniques that are less invasive than surgery have emerged, including electrochemical cauter, argon plasma coagulation and associated hemoclip placement [2], percutaneous endoscopic suturing [3], or use of the over-the-scope clip (OTSC) system [4].

We present here the case of an 89-year-old woman who was referred for a persistent gastrocutaneous fistula 20 months after PEG tube removal. The patient had suffered from achalasia, and had failed to improve with peroral endoscopic myotomy (POEM). Therefore, a 20-Fr PEG was inserted for supplemental feeding in February 2015. Wound infection of the PEG occurred 8 months later, although her oral intake had by then improved, so the PEG tube was removed in August 2017. A gastric fistula persisted with intermittent liquid leakage, associated with local skin erythema and pain. Conservative treatment failed and a combined endoscopic closure using endoscopic submucosal dissection (ESD) and an OTSC was proposed (▶ Video 1), as previously dem-

![Fig. 1 Endoscopic images during endoscopic submucosal dissection of a persistent gastrocutaneous fistula after percutaneous endoscopic gastrostomy (PEG) removal showing: a the internal orifice of the fistula (arrow); b–d the progressive dissection of the mucosal patch surrounding the fistula until complete ablation of the gastric mucosa.](image-url)
Endoscopy enables therapy that is less aggressive than, but as effective as, surgery for the closure of simple fistulas. Combining ESD with the OTSC system offers the ability to trap and hold adequate tissue, which is a limitation of hemoclip application, and favors healing.

**Competing interests**

None

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**References**


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DOI https://doi.org/10.1055/a-0858-9796
Published online: 13.3.2019
Endoscopy 2019; 51: E125–E126
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Stuttgart · New York
ISSN 0013-726X

**E-Videos**

**Fig. 2** The closed fistula seen on: a) internal view, showing the over-the-scope clip closure; b) external view, showing the closure with a suture.

**Video 1** Procedure of endoscopic submucosal dissection combined with over-the-scope clip closure of a chronic gastrocutaneous fistula after percutaneous endoscopic gastrostomy tube removal.