

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

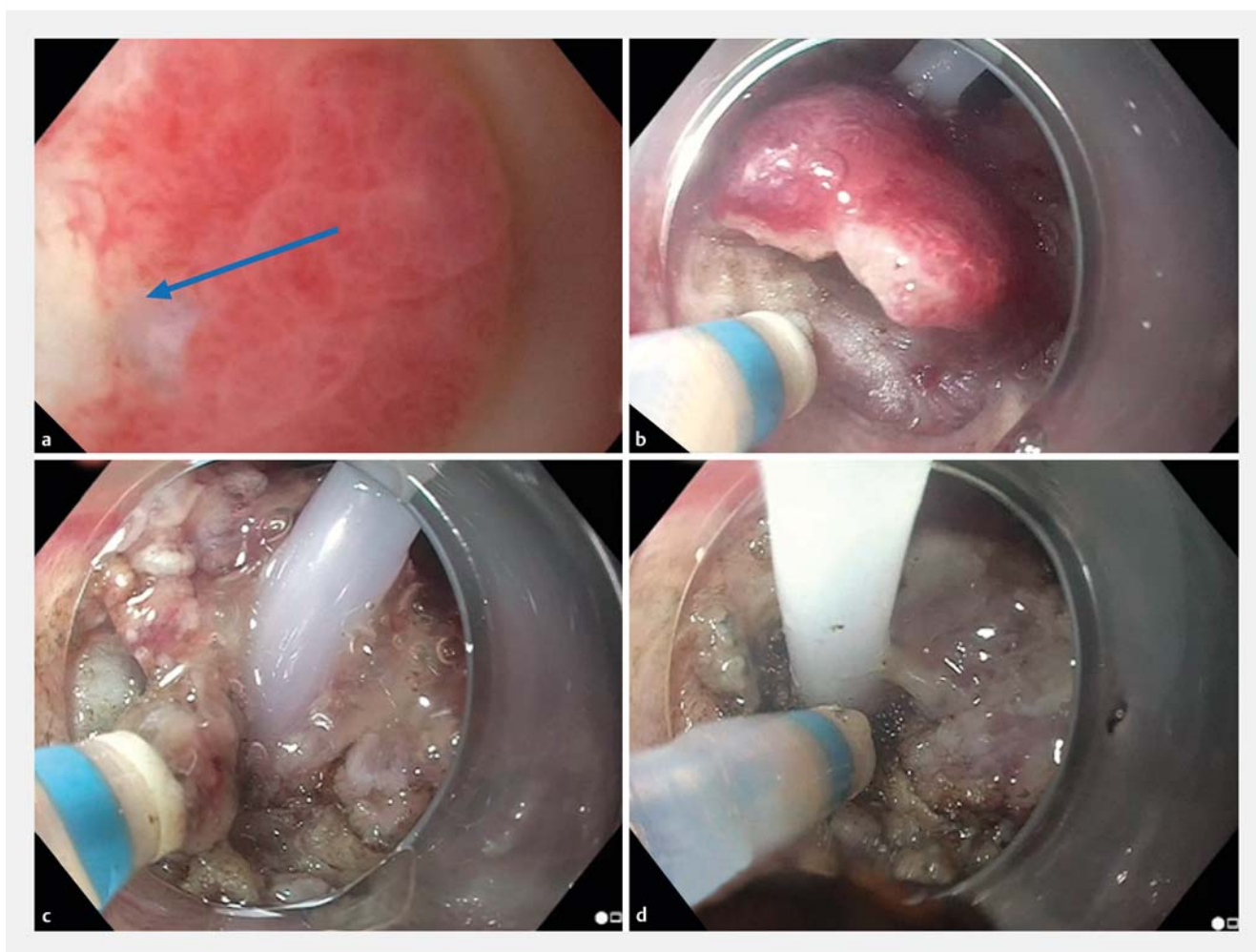
Fistulous leakage after percutaneous endoscopic gastrostomy (PEG) removal is a common adverse event occurring in around 25% of patients and requiring surgery in 13% of patients [1]. Conservative treatment with stomach emptying, silver nitrate, changing of the tube, and pro-motility agents are usually offered first. Previously persistent fistulas were usually closed surgically, but a variety of different endoscopic techniques that are less invasive than surgery have emerged, includ-

ing electrochemical cautery, argon plasma coagulation and associated hemoclip placement [2], percutaneous endoscopic suturing [3], or use of the over-the-scope clip (OTSC) system [4].

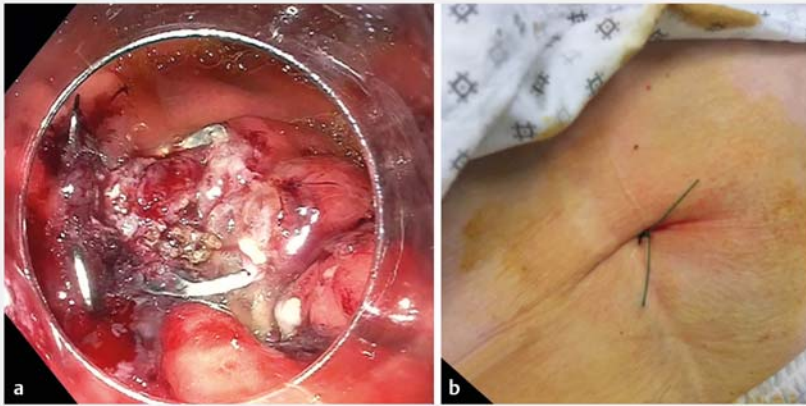
We present here the case of an 89-year-old woman who was referred for a persistent gastrocutaneous fistula 20 months after PEG tube removal. The patient had suffered from achalasia, and had failed to improve with peroral endoscopic myotomy (POEM). Therefore, a 20-Fr PEG was

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.



► **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.

onstrated in other fistulas [5]. The tract was catheterized with a plastic catheter inserted into the center of the fistula (► **Fig. 1**). A circumferential ESD was performed to ablate the surrounding mucosa and the fistula tract to promote healing. The inner fistula was then closed with an OTSC (Ovesco) (► **Fig. 2a**). Finally, the skin was sutured (one stitch) to improve scar formation (► **Fig. 2b**).

The patient was discharged on day 1. The gastrocutaneous fistula was completely healed in less than 1 week and remains closed after 2 months.

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.

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Competing interests

None

The authors

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