# A novel method for closure of a persistent gastrostomy feeding site fistula



**Fig. 1** Contrast study of a persistent gastrostomy site fistula in a 22-year-old man presenting with leaking gastric contents 24 months after the removal of a gastrostomy.

A 22-year-old man with congenital intestinal malrotation and autoimmune enterocolitis, previously requiring enteral nutritional support for many years, presented with persistently leaking gastric contents 24 months after the removal of a gastrostomy. Attempted closure with three endoscopic clips at the internal opening 8 months earlier had been unsuccessful.

A contrast study confirmed persistent fistula with a short tract (> Fig. 1). While the patient was under general anesthesia, a further procedure was performed comprising closure with silver nitrate cauterization and a 10-mm hexagonal nitinol clip (Padlock-G Clip; Aponos Medical, Kingston, New Hampshire, USA). The internal opening was identified endoscopically (**•** Fig.2a). The external opening was infiltrated with 7 mL of 1% lignocaine as a local anesthetic. The tract just allowed passage of a 3-mm-diameter silver nitrate (75% w/w) stick for cauterization, with the depth confirmed endoscopically (**Fig.2b**). The inner opening and surrounding tissue were drawn into a deployment pod attached to a standard esophagogastroduodenoscope (Olympus, Tokyo, Japan) (**•** Fig. 2c). The 10-mm hexagonal nitinol clip with six inner prongs was then deployed over this pod, with good im-



mediate effect (**•** Fig.2d, **•** Fig.2e). The patient reported mild, self-limiting discomfort at the site for 3 days after the procedure, but there was no persistent drainage or abdominal pain at follow-up at 6 months.

Persistence of a gastrocutaneous fistula, defined as the leakage of gastric contents for at least 1 month after the removal of a gastrostomy tube, occurs in up to 34% of patients [1]. Previously, surgical closure was required, but more recently, multiple endoscopic methods with varying efficacy

have been described. These include chemical or electrical cauterization in combination with clip closure [2], endoscopic suturing [3], fibrin glue placement [4], and over-the-scope clip placement [5]. This is the first report to describe the use of a 10-mm hexagonal nitinol clip in combination with silver nitrate cauterization as an effective option for the closure of persistent gastrocutaneous fistula at a gastrostomy site. Apart from causing transient discomfort, the method appears to be safe. Endoscopy\_UCTN\_Code\_TTT\_1AO\_2AI

Competing interests: None

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#### References

- 1 Janik TA, Hendrickson RJ, Janik JS et al. Analysis of factors affecting the spontaneous closure of a gastrocutaneous fistula. J Pediatr Surg 2004; 39: 1197–1199
- 2 Teitelbaum JE, Gorcey SA, Fox VL. Combined endoscopic cautery and clip closure of chronic gastrocutaneous fistulas. Gastrointest Endosc 2005; 62: 432–435
- 3 Eskaros S, Ghevariya V, Krishnaiah M et al. Percutaneous endoscopic suturing: an effective treatment for gastrocutaneous fistula. Gastrointest Endosc 2009; 70: 768 – 771
- 4 Gonzalez-Ojeda A, Avalos-Gonzalez J, Mucino-Hernandez MI et al. Fibrin glue as adjuvant treatment for gastrocutaneous fistula after gastrostomy tube removal. Endoscopy 2004; 36: 337 – 341
- 5 Singhal S, Changela K, Culliford A et al. Endoscopic closure of persistent gastrocutaneous fistulae, after percutaneous endoscopic gastrostomy (PEG) tube placement, using the over-the-scope-clip system. Ther Adv Gastroenterol 2015; 8: 182–188

### Bibliography

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