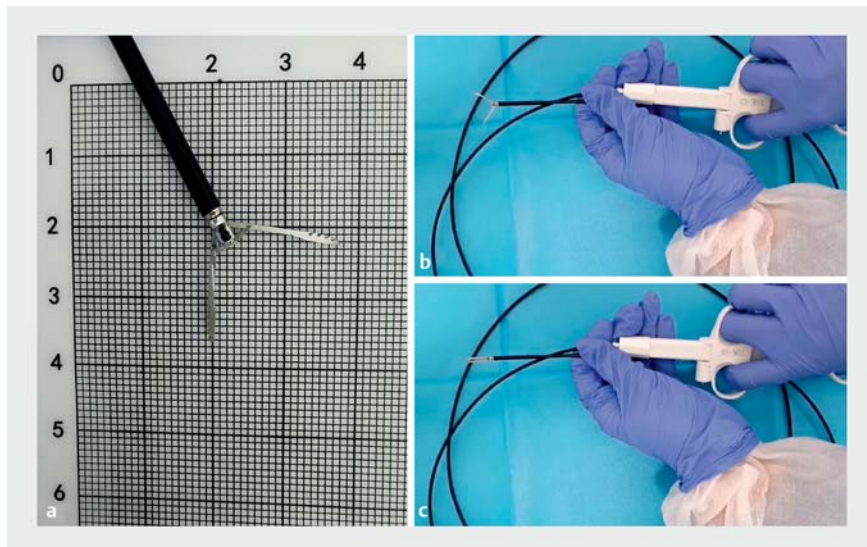


## Novel blunt dissection forceps for tunnel creation during peroral endoscopic myotomy

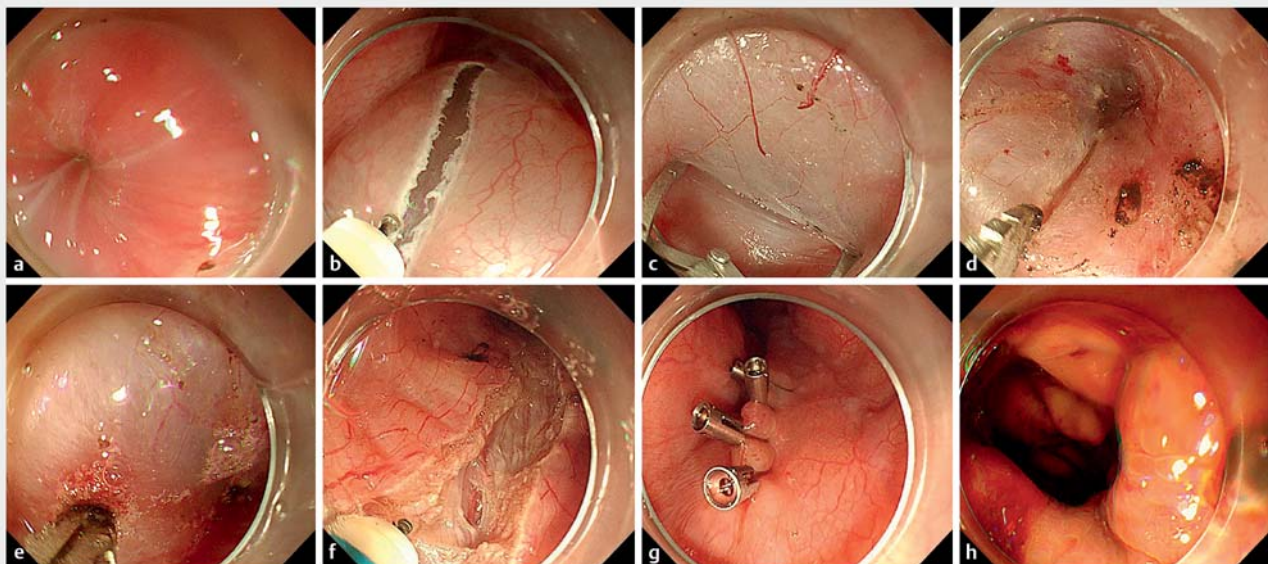
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Peroral endoscopic myotomy (POEM) has been regarded as the main treatment for achalasia [1]. The creation of a submucosal tunnel during POEM is one of the key steps. Previous studies have suggested that using blunt dissection to create the tunnel can facilitate the procedure and reduce complications such as bleeding and perforation [2,3]. We report here the use of a novel blunt dissection forceps (► Fig. 1) that we have invented for tunnel creation during POEM. The device integrates the functions of blunt dissection, electroresection, and electrocoagulation, making the procedure more convenient.

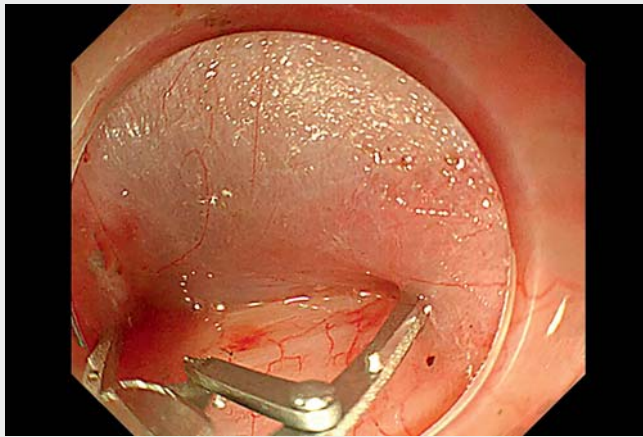
A 32-year-old woman presented with intermittent dysphagia that had lasted for 6 years and was diagnosed with achalasia. POEM was performed for this patient (► Fig. 2, ► Video 1). The patient was



► Fig. 1 The blunt dissection forceps. **a** The special reverse five-link cutter structure in the tool bit. **b** The handle is pulled back to open the forceps for blunt dissection. **c** The handle is pushed forward to close the forceps for electroresection and electrocoagulation.



► Fig. 2 Peroral endoscopic myotomy procedure. **a** The tightly closed cardia before the procedure. **b** Mucosal entry was made using a dual knife. **c** Blunt dissection for tunnel creation using the open forceps. **d** Electroresection in the tunnel using the closed forceps. **e** Electrocoagulation for hemostasis in the tunnel using the closed forceps. **f** Myotomy was performed using the dual knife. **g** Closure of the mucosal entry using endoscopic clips. **h** The open cardia after the procedure.



**Video 1** Novel blunt dissection forceps for tunnel creation during peroral endoscopic myotomy.

under general anesthesia throughout the procedure. After submucosal injection, mucosal incision was performed at 10 cm proximal to the gastroesophageal junction using a conventional dual knife (► Fig. 2b). Then, the blunt dissection forceps was applied for tunnel creation, during which blunt dissection, electroresection, and electrocoagulation were used as appropriate (► Fig. 2c–e). Myotomy was performed using the dual knife (► Fig. 2f). The mucosal entry was closed using endoscopic clips (► Fig. 2g). The operation time was 45 minutes. There was no mucosal injury during the whole procedure, or bleeding or perforation. The patient recovered uneventfully, and was discharged after 3 days (► Fig. 2h). During 6 months of follow-up, the patient was well, and had no further dysphagia or other discomforts.

In our experience, the blunt dissection forceps we have developed can facilitate tunnel creation during POEM, allowing a simple, fast, and safe procedure. Further studies with large sample sizes are required to evaluate the safety and effectiveness of the blunt dissection forceps for POEM and other endoscopic interventions.

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## Competing interests

The authors declare that they have no conflict of interest.

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