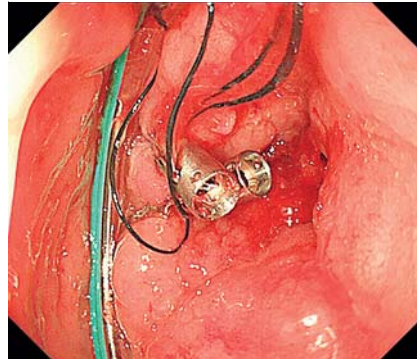


## Drainage via colonic transendoscopic enteral tubing increases our confidence in rescuing endoscopy-associated perforation

A 25-year-old woman with stricturing Crohn's disease in the transverse colon underwent endoscopic balloon dilation. A colonic transendoscopic enteral tube (outer diameter 2.7 mm, FMT-DT-F-27/1350; FMT Medical, Nanjing, China) with loops was fixed onto the ascending colon wall by endoscopic clips [1] after dilation (► **Fig. 1**). The colonic transendoscopic enteral tube was primarily for frequently delivering medications and for transplantation of washed microbiota [2] after endoscopy-associated perforation and bleeding were excluded. However, perforation was identified on X-ray (► **Fig. 2**) when she complained of abdominal pain and fever 1 day after endoscopy. The transendoscopic enteral tube was immediately used to drain the air and fluid in the colon using syringe suction (► **Fig. 3**). She recovered rapidly and started enteral nutrition 4 days later. Interestingly, she suffered another endoscopic dilation-induced perforation 1 year later and was successfully rescued in time by the same colonic transendoscopic enteral tube technique and antibiotics.

In order to confirm the rescue value of transendoscopic enteral tube drainage for endoscopy-associated perforation, a 51-year-old man with ulcerative colitis and laterally spreading mild dysplasia in the sigmoid colon was similarly managed. The perforation was identified on computed tomography 3 days after endoscopic submucosal dissection (ESD) (► **Fig. 4**), although antibiotics were used post-ESD. The colonic transendoscopic enteral tube was fixed onto the descending colon wall for drainage (► **Video 1**). He recovered very quickly and started enteral nutrition 4 days later. If perforations are identified in patients with Crohn's disease, an urgent evalua-



► **Fig. 1** The transendoscopic enteral tube was fixed by two clips on the proximal bowel wall in a patient with Crohn's disease.



► **Fig. 2** A perforation was identified on abdominal X-ray 1 day post-procedure.



► **Fig. 3** Frequent suction using a syringe via the transendoscopic enteral tube.



► **Fig. 4** Computed tomography revealed a perforation after endoscopic submucosal dissection in a patient with ulcerative colitis.

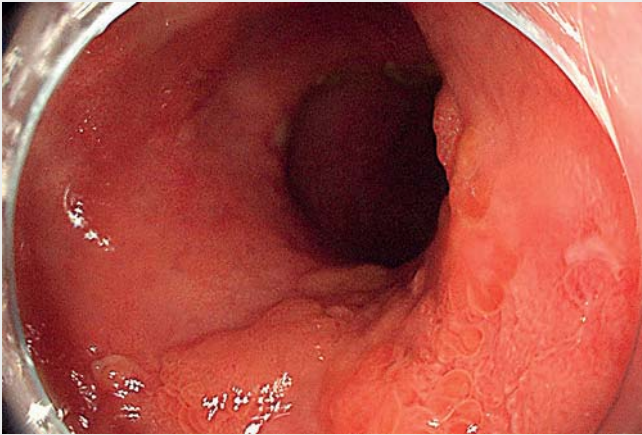
tion and surgery consultation should be done [3]. The majority of iatrogenic sigmoid perforations in ulcerative colitis patients were considered for sub-total colectomy with end ileostomy, staged total proctocolectomy with ileal pouch, segmental colectomy with primary anastomosis, segmental colectomy with co-

lostomy, or primary surgical repair [4]. This report indicates for the first time that timely drainage using a colonic transendoscopic enteral tube could be the core management approach to avoid surgery in patients with an endoscopy-associated perforation.

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### Competing interests

Zhang F. conceived the concept of TET and the related device. Other authors declare that they have no conflict of interest.



**Video 1** The key steps for using a colonic transendoscopic enteral tube and drainage to treat a perforation.

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