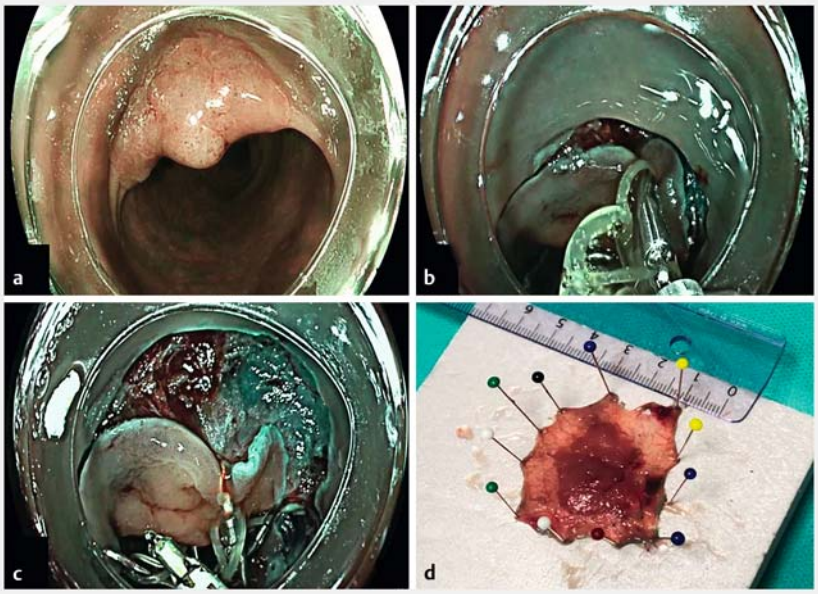
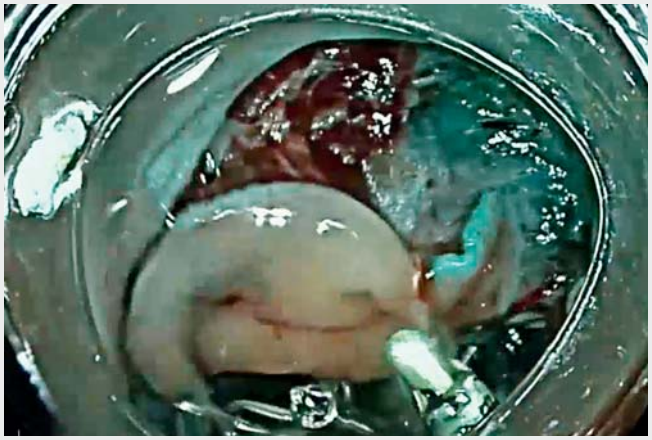
"Spider traction" endoscopic submucosal dissection for colonic lesion

Endoscopic submucosal dissection (ESD) is the preferred and most effective approach for resection of large colonic lesions. Use of a traction strategy has been shown to reduce the technical difficulty and improve the safety of the procedure, especially in nonexpert hands. We previously introduced a double clip and rubber band traction technique (DCT-ESD), which is one of the cheapest and easily-made traction devices [1, 2]. A multitraction strategy for ESD of a deep submucosal colonic carcinoma was recently reported [3]. We call this upgraded traction system "spider traction".

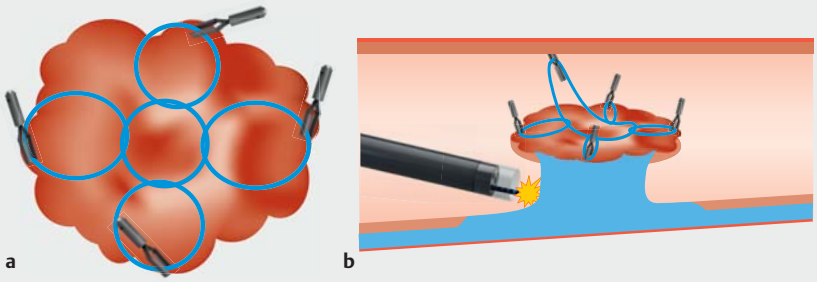
A 65-year-old patient was diagnosed with a 50 × 50 mm nongranular-type laterally spreading tumor (JNET type 2B) in the ascending colon (▶ **Fig. 1 a**). We decided to remove the lesion using ESD with spider traction. After submucosal injection of glycerol mixed with indigo carmine, we started circumferential incision followed by trimming of the edges using AqaNife (OVESCO, Tübingen, Germany). The spider traction system was prepared using four rubber bands attached to a central band (▶ **Video 1**). The first endoscopic clip grasped one of the side rubbers bands and was then inserted through the working channel of the endoscope. The system was placed on one edge of the mucosal flap (▶ **Fig. 1 b**). In total, five clips were used to fix the traction system to the lesion and to the opposite wall of the colon, creating four-quadrant traction, allowing better visibility of the cutting plan and a wider submucosal space for dissection (▶ **Fig. 1 c**, ▶ **Fig. 2 a, b**). We accomplished complete en bloc resection without any adverse events in 30 minutes (resection speed, 83.33 mm^2/min) (▶ **Fig. 1 d**). Final pathology revealed a R0 resection with high grade dysplasia.



▶ **Fig. 1** Endoscopic submucosal dissection using spider traction. **a** Nongranular-type laterally spreading tumor in the ascending colon (size 50 × 50 mm). **b** Starting to attach the spider traction system to the lesion. **c** Complete traction of the whole lesion using spider traction. **d** En bloc specimen (50 × 50 mm).



Video 1 Colonic endoscopic submucosal dissection assisted by spider traction.



▶ **Fig. 2** Schema of spider traction during endoscopic submucosal dissection. **a** The spider traction system on top of the lesion. **b** The spider traction system after complete deployment.

The spider traction system for ESD appeared to address the difficulty of lateral and distal edge dissection, with increased resection speed compared with our previous DCT-ESD technique. A prospective study is under way to evaluate the potential utility of this upgraded traction strategy.

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Competing interests

The authors declare that they have no conflict of interest.

The authors

Borathchakra Oung[1], Jérémie Albouys[2], Sophie Geyl[2], Romain Legros[2], Thomas Lambin[2], Mathieu Pioche[3], Jérémie Jacques[2]

1 Department of Gastroenterology and Digestive Endoscopy, Calmette Hospital, Phnom Penh, Cambodia

2 Service d'Hépato-gastro-entérologie, Dupuytren University Hospital, Limoges, France

3 Department of Endoscopy and Gastroenterology, Pavillon L, Edouard Herriot Hospital, Lyon, France

Corresponding author

Jérémie Jacques, MD
Service d'Hépato-gastro-entérologie, CHU Dupuytren, 2 avenue Martin Luther-King, 87042 Limoges, France
jeremiejacques@gmail.com

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