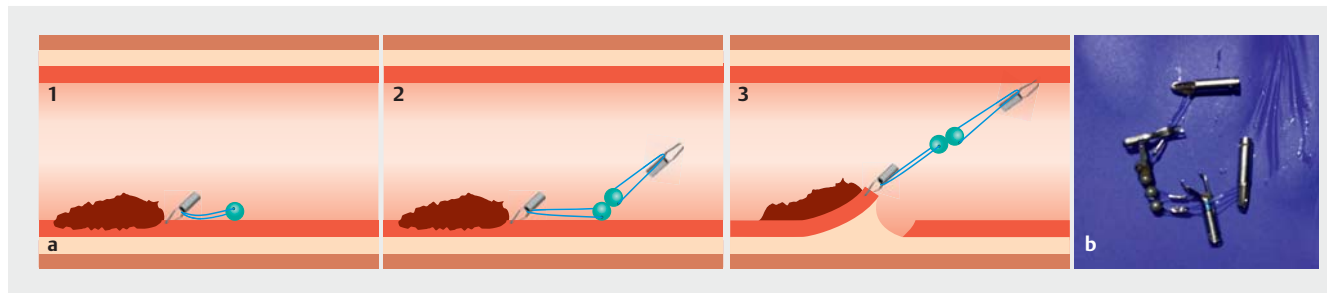


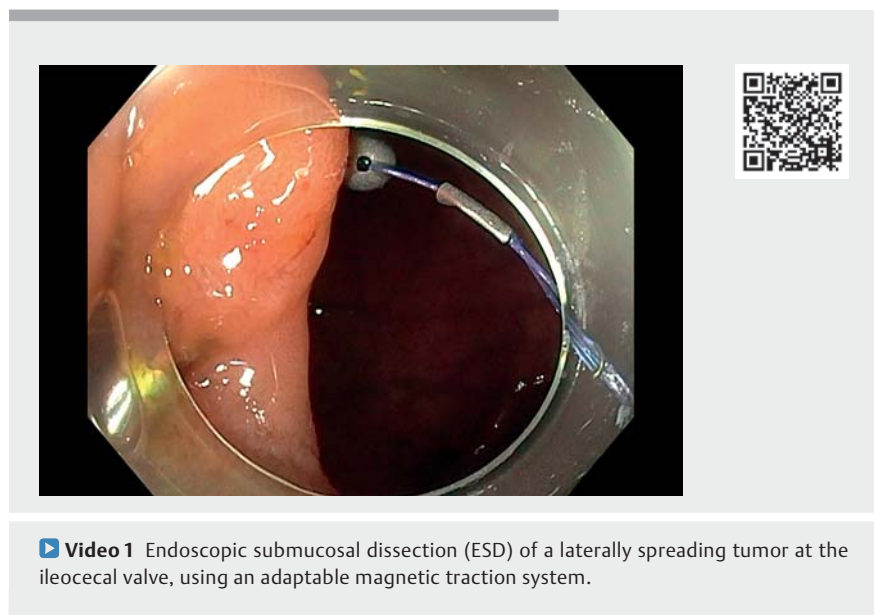
Endoscopic submucosal dissection of an ileocecal valve laterally spreading tumor using an adaptable magnetic traction system



► **Fig. 1** **a** Schematic representation of a magnetic traction system used to facilitate endoscopic submucosal dissection (ESD). **b** Appearance of the magnetic traction system after extraction from the patient's colon at the end of the ESD procedure.

Traction-assistance is very effective in facilitating endoscopic submucosal dissection (ESD) of superficial colorectal lesions [1], notably in the case of difficult locations such as the ileocecal valve. We have recently developed a multitraction strategy to increase the efficacy of traction for lesions in such locations, using a rubber band to connect the different traction points [2]. A new magnetic traction device (ProdiGI Traction Magnet, Medtronic) has been developed that allows adjustment of the traction strategy during the procedure (► **Fig. 1 a, b**; ► **Video 1**).

We report here the case of a 64-year-old patient with a 2-cm nongranular laterally spreading tumor of the cecum, extending to the lower lip of the ileocecal valve. In order to make the incision with satisfactory margins, the first step of the ESD procedure consisted in exposing the inner part of the valve using a first clip as previously described [3], by connecting the magnet attached to the first clip to the magnet of a second clip placed on the opposite colonic wall (► **Fig. 2**). Once the incision had been made, we had to expose the submucosa for the dissection itself, with a third clip placed on the edge of the lesion, that was magnetically connected to the clip on the opposite colonic wall. At this point, the first clip

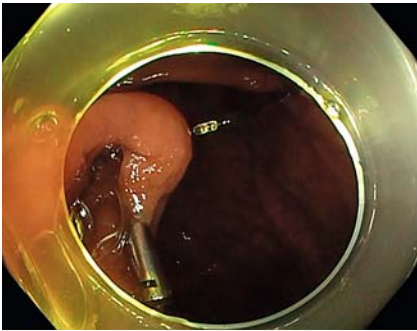


► **Video 1** Endoscopic submucosal dissection (ESD) of a laterally spreading tumor at the ileocecal valve, using an adaptable magnetic traction system.

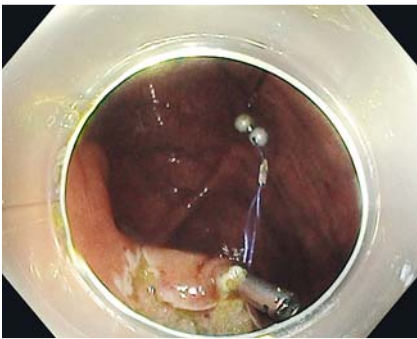
used to pull the inner part of the valve to allow incision on the ileal side had become troublesome because the traction angle was not optimal for submucosal exposure. Therefore, we separated the magnet of the first clip from the two others using the cap of the endoscope, in order to obtain optimal traction for the dissection itself (► **Fig. 3**). This technique allowed a curative R0 resection of the lesion (► **Fig. 4**).

To our knowledge, this is the first case in humans of the use of a fully internalized magnetic traction system that can pass through the operating channel of the endoscope [4]. This technique seems attractive in difficult locations where a change in traction configuration is necessary during the procedure. Further studies are needed to confirm its effectiveness.

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► **Fig. 2** Using the magnetic traction system to obtain a satisfactory eversion of the ileocecal valve before ESD of the laterally spreading tumor. The first magnetic clip has been placed in the inner part of the valve and the second on the opposite colonic wall. The attraction between the magnets is through the mucosa in this instance.



► **Fig. 3** Obtaining excellent submucosal exposure at the lateral edge of the lesion.



► **Fig. 4** Lesion measuring 25 × 35 mm, stretched on cork. The lesion was removed with satisfactory margins. It corresponded to a high grade dysplasia adenoma.

Competing interests

The authors declare that they have no conflict of interest.

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