Counter-traction using clips and rubber banding for endoscopic submucosal dissection of a laterally spreading tumor involving a diverticulum in the colon

In addition to the possibility of en bloc resection without size limitations, endoscopic submucosal dissection (ESD) is also a novel option for endoscopic treatment of lesions involving a diverticulum in the colon [1] or appendix [2]. Generally, when employing endoscopic mucosal resection, these types of lesions have a high risk of perforation or incomplete resection.

Here, we report a case of a laterally spreading tumor (LST) involving a colonic diverticulum that underwent successful en bloc resection by ESD using counter-traction with clips and rubber banding (Video 1). A man in his 60s was referred to our hospital for resection of a 40-mm LST in the ascending colon (Fig. 1). It was a granular LST with a regular vascular and pit pattern on blue-laser imaging but also involvement of a centrally located diverticulum, all of which were indications for ESD.

After the initial needle injection, ESD was initiated from the anal side using the DualKnife J (Olympus Medical, Tokyo, Japan) injecting glycerol mixture. We used counter-traction with clips and rubber bands (Fig. 2) to allow better exposure of the submucosal layer, as described previously [3]. Once the endoscope approached the diverticulum, a second traction using two clips and another rubber band was positioned to allow a maximal increase in the submucosal space. ESD was performed cautiously in the area of the diverticulum, and the location of the submucosal plane was determined by counter-traction. After dissection, we found an accumulation of “submucosal” fibers at the base of the diverticulum that were not perforated (Fig. 3). Finally, en bloc resection was completed in 50 minutes, and the diverticulum was closed to prevent delayed perforation. The patient was discharged without complications 24 hours later.

Pathological analysis revealed a tubulovillous adenoma measuring 52 × 40 mm, with high grade dysplasia and free margins.

Our proposed counter-traction technique using clips and rubber banding allows en bloc resection of large colonic adenomas involving diverticula, which would normally be treated by surgery or a full-thickness resection device.

Endoscopy_UCTN_Code_TTT_1AQ_2AD
Competing interests

None

The authors

Jérémie Albouys1, Sophie Geyl1, Aurélie Charissoux2, Romain Legros1, Denis Sautereau1, Mathieu Pioche3, Jérémie Jacques1

1 Gastroentérologie et endoscopie digestive, CHU Dupuytren, 2 avenue Martin Luther-King, 87042 Limoges, France
2 Anatomopathologie, CHU Dupuytren, Limoges, France
3 Unité d'endoscopie digestive, Service de Gastroentérologie – pavillon H, Hôpital Edouard Herriot, Hospices Civils de Lyon, Lyon, France

Corresponding author

Jérémie Jacques, MD
Service d’Hépato-gastro-entérologie, CHU Dupuytren, 2 avenue Martin Luther-King, 87042 Limoges, France
Fax: +33-5-55058733
jeremiejacques@gmail.com

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DOI https://doi.org/10.1055/a-0915-1463
Published online: 2019
Endoscopy
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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