Endoscopic submucosal dissection for curative resection of a superficial rectal lesion over a varix in a patient with cirrhosis

Fig. 1 Diagnostic colonoscopy revealed a 30-mm superficial lesion in the distal rectum and multiple rectal varices, one of which was located underneath the lesion.

Fig. 2 Band ligation of a rectal varix located underneath the lesion was performed before the resection. One band was applied distally to the lesion and two were applied proximally.

Video 1 Demonstration of band ligation of a rectal varix followed by endoscopic submucosal dissection of a 30-mm rectal lesion, which lay over the varix.

Fig. 3 Endoscopic submucosal dissection of the rectal lesion. **a** Mucosal incision close to a ligation band that had been applied prior to resection. **b** Advanced stage of the procedure, following dissection of submucosal fibers over the varix.

Fig. 4 The ulcer after endoscopic resection, showing the thrombosed varix (within yellow lines). **a** Straight view. **b** Retroflexed view.

A 70-year-old woman with a history of congestive heart failure and alcoholic liver disease was referred to our unit because of intermittent hematochezia. Colonoscopy was performed and showed multiple rectal varices. In addition, in the distal rectum, a 30-mm laterally spreading tumor of granular type could be seen with a central nodular component over a varix (Fig. 1). Following multidisciplinary evaluation, endoscopic submucosal dissection (ESD) was planned.

To reduce the risk of bleeding, variceal band ligation was performed first for the varix located beneath the lesion. Three rubber bands were applied – one distally to the lesion and two proximally (Fig. 2). A solution of saline, indigo carmine, and epinephrine (1:250 000) was then injected into the submucosa, and circumferential incision and submucosal dissection were performed using a 1.5 mm DualKnife and IT-Knife nano (Olympus, Tokyo, Japan) (Fig. 3a, Fig. 3b). During the procedure, minor bleeding and potentially bleeding vessels were coagulated using the tip of the knife or hemostatic forceps (Coagrasper; Olympus). En bloc resection was achieved and no complications were reported. At the end of the procedure, the iatrogenic ulcer could be seen, with the varix containing thrombosed blood but no active bleeding (Fig. 4a, Fig. 4b). Pathological analysis revealed total R0 resection of a tubulo-

villous adenoma with high grade dysplasia.

ESD is a minimally invasive, organ-sparing, endoscopic technique that allows en bloc resection of premalignant and early malignant lesions of the gastrointestinal tract, regardless of size, and thus avoiding surgical morbidity [1]. The risks associated with surgery are particularly high in patients with liver cirrhosis [2]. In contrast, ESD seems to be effective and safe for treatment of early gastric neoplastic lesions in this patient population [3,4]. Moreover, ESD has been successfully performed after band ligation in patients with superficial esophageal squamous cell carcinoma lying over esophageal varices [5]. However, to our knowledge, this is the first report to describe ESD for the successful treatment of a superficial rectal lesion over a rectal varix.

Endoscopy_UCTN_Code_TTT_1AQ_2AD

Competing interests: None

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DOI <http://dx.doi.org/10.1055/s-0034-1393590>
Endoscopy 2015; 47: E633–E634
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

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