Double ligation-assisted endoscopic submucosal resection for wider-margin resection of nonmuscularis propria subepithelial esophageal lesions

Esophageal subepithelial lesions (SELs) are common in endoscopy practice. Clinical management depends on multiple factors including tissue diagnosis and, thus, assessment of malignant potential [1]. With respect to endoscopic resectability and, if appropriate, choice of therapeutic modality, characterization of the layer of origin is critical. However, as conventional low-frequency endoscopic ultrasound (EUS) may not reliably determine the origin of a muscularis mucosae lesion, for example, clear-cut differentiation of the muscularis propria and nonmuscularis propria localization is more relevant. From this perspective, apart from granular cell tumors, which have a high rate of tissue diagnosis on standard forceps biopsy, EUS puncture is often discussed, but is also often technically complicated in small-sized lesions. Therefore, a more straightforward approach in easy-to-resect nonmuscularis propria lesions may be more appropriate, given adequate patient counseling and preference. Here, a novel variant technique, which is an evolution of endoscopic submucosal resection with ligation (ESMR-L) and is designated “double ligation-assisted endo-
scopic submucosal resection” (ESMR-DL), for rapid wide-margin removal of small SELs is presented in three consecutive patients [2, 3].

▶ Table 1 and ▶ Fig. 1 illustrate basic patient and SEL characteristics. In addition, ▶ Fig. 2 and ▶ Video 1 demonstrate the individual steps of the procedure. In brief, after EUS assessment of echogenicity, vascularity, and, particularly, muscularis propria layer integrity behind the respective lesion, a standard endoscopic variceal ligation (EVL) device is mounted, and the lesion is mobilized and suctioned into the cap. Notably, and unlike most descriptions of ESMR-L, this stage occurs without prior submucosal injection. Next, two bands are placed to increase luminal protuberance and, thus, basal resection margins, and the lesion is released. After removal of the EVL device, the lesion is visualized and snared below the bands using electrocautery. The en bloc specimen may then be retrieved by, for example, a Roth net, and sent for pathological assessment. The intervention is terminated by adequate analysis of the resection bed with or without clipping of the defect.

Competing interests

None
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