Underwater endoscopic mucosal resection after endoscopic ultrasound examination for safe and reliable complete resection of a deeply invasive submucosal cecal cancer

The risk of lymph node metastases from invasive submucosal (T1b) colorectal cancers >1000 µm deep is 1.3% according to the Japanese guideline [1]. Over 98% of stage T1b cancers without evidence of lymphovascular invasion, poor differentiation, or budding have no associated lymph node metastases. Achieving an endoscopic R0 resection allows curative resection of the majority of stage T1b cancers. Although magnifying colonoscopy can diagnose stage T1b cancers, pathological evaluation using specimens from an R0 resection is more reliable. If a cancer is diminutive and possibly a stage T1b cancer, total excision for pathological evaluation may avoid surgical resection but, to be justified, must be safe and reasonable. Although endoscopic submucosal dissection is reliable for R0 resection, Fukuda et al. recently showed that underwater endoscopic mucosal resection (UEMR) can completely resect stage T1b lesions [2]. Endoscopic ultrasound (EUS) demonstrates the submucosa under the tumor, which facilitates decision-making about UEMR.

A 73-year-old man was referred because of a cecal lesion that was suspected to be an adenocarcinoma after biopsy. An outpatient colonoscopy revealed a 7-mm sessile cecal tumor. Magnifying narrow-band imaging using an EC-760ZP-W/M colonoscope (Fujifilm, Tokyo, Japan) with distal attachment (D-201-14304; Olympus, Tokyo, Japan) suggested a T1b cancer (▶ Fig. 1; ▶ Video 1). EUS (EU-ME1; Olympus) clearly demonstrated residual submucosa under the tumor. When the cecum contracted, the muscularis became recessed circumferentially, with a thickened submucosa on EUS imaging. This transformed the lesion into a floating subpedunculated tumor in the underwater endoscopic view (▶ Fig. 2), which suggested that complete endoscopic resection using UEMR for complete pathological evaluation would be both safe and feasible on an outpatient basis. UEMR was completed without complications (▶ Fig. 3). Pathologic evaluation revealed a submucosal invasive adenocarcinoma with negative margins (▶ Fig. 4). This patient demonstrates that a stage T1b cancer can be safely and completely resected with UEMR after first confirming the submucosal characteristics using EUS. Indiscriminate EMR and/or cold snare polypectomy should be avoided for such lesions.

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Fig. 4 Histopathological views (×40 magnification) showing: a on hematoxylin and eosin staining, a well-to-moderately differentiated deeply invasive submucosal adenocarcinoma, with no lymphovascular invasion and a negative vertical margin; b on desmin staining, absence of the muscularis mucosa, with submucosal invasion to a depth of 3 mm.