

## DEN Video Article

## Underwater endoscopic mucosal resection for a large polyp in the terminal ileum

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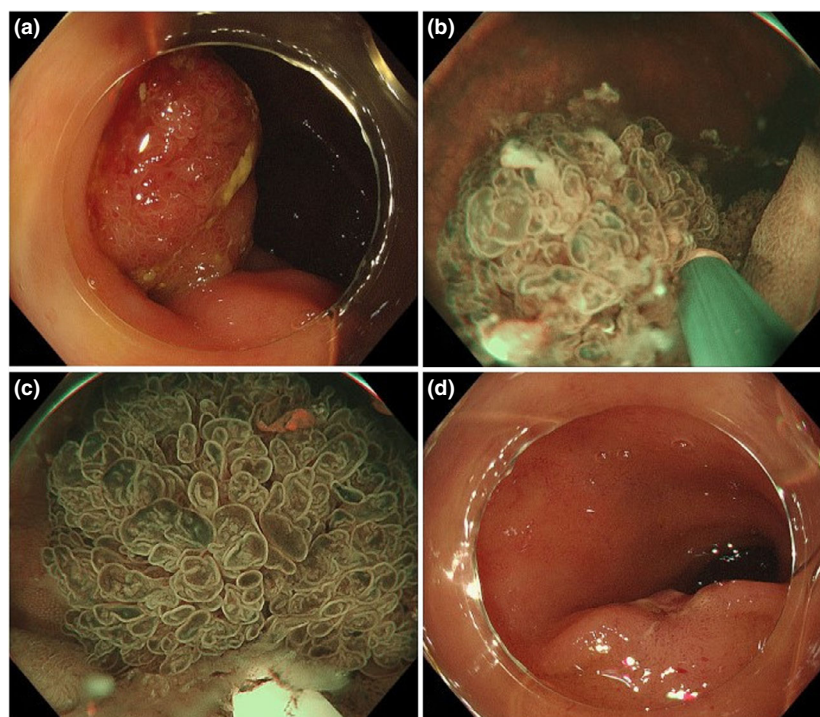
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## BRIEF EXPLANATION

UNDERWATER ENDOSCOPIC MUCOSAL resection (UEMR) is reportedly efficacious and safe to remove colorectal and duodenal polyps, including intra-mucosal

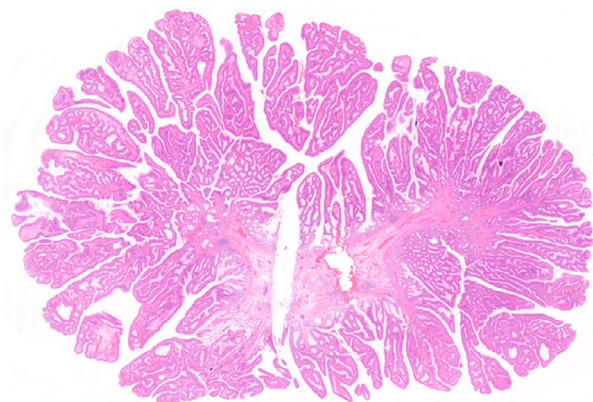
cancers.<sup>1–5</sup> However, information on UEMR in the terminal ileum is lacking.

A woman in her 60's underwent colonoscopy in a different hospital for visual investigation after a positive fecal immunochemical test, revealing a 30-mm sessile polyp



**Figure 1** Endoscopic images. (a) The polyp was partially prolapsed toward the cecum. (b) The base of the polyp could be seen using biopsy forceps under water. (c) The polyp was snared during water immersion. (d) The mucosal defect after underwater endoscopic mucosal resection showed no endoscopic remnants.

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**Figure 2** The pathological diagnosis was low-grade tubulovillous adenoma.

in the terminal ileum, approximately 10 cm proximal to the ileocecal valve. Although removal was attempted in the previous hospital, endoscopic mucosal resection was not feasible because of the narrowness of the terminal ileum. Endoscopic submucosal dissection was initiated, although interrupted following a mucosal incision due to the limited maneuverability of the endoscope. The patient was then referred to our hospital for surgery.

The colonoscopy revealed a protruding villous polyp without any invasive endoscopic features. The polyp partially prolapsed toward the cecum (Fig. 1a). We decided to perform UEMR using a 30-mm oval-type electrosurgical snare (Lariat; Fujifilm Medical, Tokyo, Japan), the widest snare available in our hospital. Following complete water immersion, as confirmed by the endoscopic images, the polyp floating in the water was snared without submucosal injection or pressure to the intestinal wall (Fig. 1b,c; Video S1). The polyp was resected with electrocautery (EndocutQ effect 3, interval 2, duration 3; VIO 300D; ERBE, Tübingen, Germany). Noticing a small remnant, an additional UEMR was performed. Finally, we confirmed that there were no remnants and no adverse events (Fig. 1d). The pathological diagnosis was low-grade tubulovillous adenoma (Fig. 2).

The submucosal injection administered during the previous endoscopic mucosal resection caused the lesion to swell,

becoming challenging to snare. Moreover, the previous hospital deemed endoscopic submucosal dissection technically impossible. This procedure was challenging and not recommended for beginners but chosen based on evidence indicating UEMR safety and our over 5 years' experience with UEMR. UEMR quickly and effectively removed the large polyp in the terminal ileum, avoiding surgery.

## CONFLICT OF INTEREST

**A**UTHOR Y.T. RECEIVED honoraria for his lecture from Olympus. The other authors declare no conflict of interest for this article.

## REFERENCES

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## SUPPORTING INFORMATION

**A**DDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher's web site.

**Video S1** Underwater endoscopic mucosal resection in the terminal ileum.