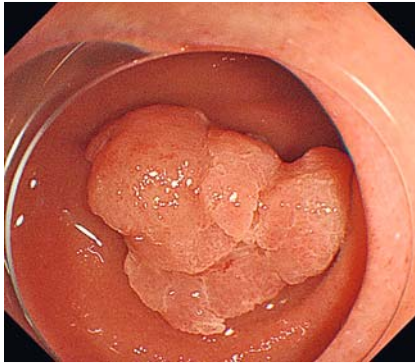


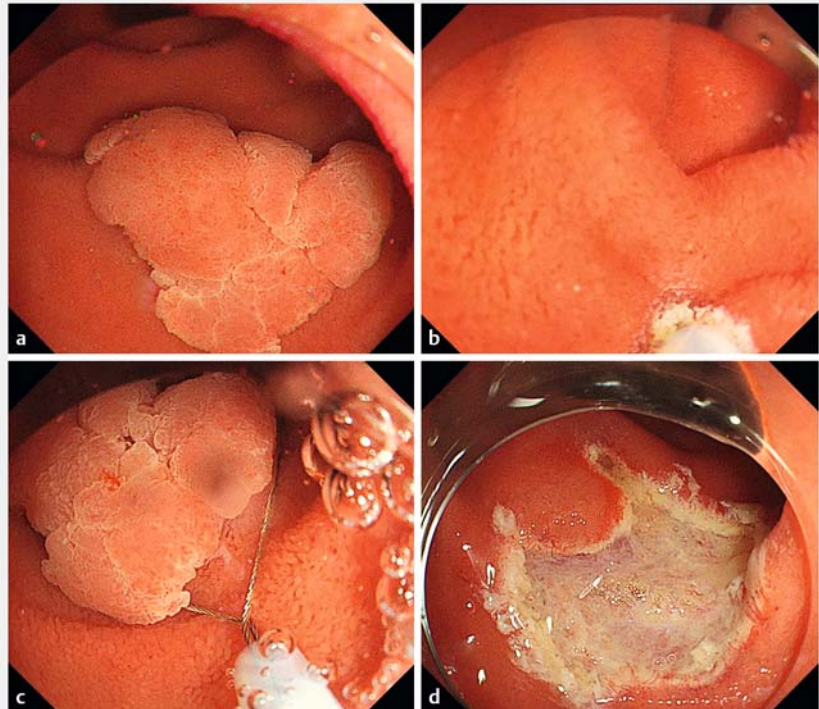
“Tip-in underwater endoscopic mucosal resection” without submucosal injection for superficial nonampullary duodenal adenomas



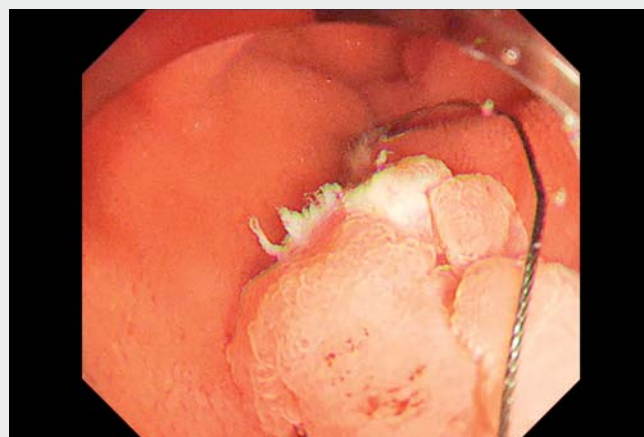
► **Fig. 1** White light image showed a duodenal adenoma with white opaque substance.

Underwater endoscopic mucosal resection (EMR) has been reported as an effective treatment for superficial nonampullary duodenal adenomas [1, 2]. However, the en bloc and R0 resection rates have been relatively low [3], possibly because the floating center of the lesion can hinder the visualization of its distal edge. This can cause the snare tip to slip, making it difficult to capture the lesion and achieve en bloc resection. To overcome these challenges, we report our new technique of “tip-in underwater EMR” for superficial nonampullary duodenal adenomas.

A 63-year-old man presented with a duodenal adenoma with a white opaque substance that was 20 mm in diameter and located in the superior duodenal angulus (► **Fig. 1**). Saline was infused using a mechanical water pump (OFP-2; Olympus, Tokyo, Japan) (► **Fig. 2a**) to completely fill the lumen. The snare tip (Snaremaster; Olympus) was projected by 1–2 mm, and a mucosal incision was created on the distal edge of the lesion using a cutting current (Endo-cut I, Effect 2; VIO3, ERBE, Tübingen, Germany) (► **Fig. 2b**). The snare was then positioned around the lesion with gentle pushing (► **Fig. 2c**). After successful capture of the lesion,



► **Fig. 2** **a** The lumen was filled with saline. **b** The distal edge of the lesion was cut using a cutting current without any submucosal injections. **c** The snare was positioned around the lesion. **d** There was no residual lesion after resection.



► **Video 1** Tip-in underwater endoscopic mucosal resection for superficial nonampullary duodenal adenoma.

resection was performed using electrocautery (Endo-cut I, Effect 2). En bloc resection was achieved (► **Fig. 2 d**) (► **Video 1**). Pathological findings indicated a low-grade adenoma with negative margins.

During tip-in EMR, making a pre-cut on the distal side of the lesion with prior submucosal injections and fixing the snare tip can make the snare less slippery [4, 5]. However, our new technique of “tip-in underwater EMR” was performed without submucosal injections. Theoretically, the heat sink effect of water, combined with a relatively thicker wall, may protect against a transmural burn even while making a pre-cut with the snare tip. We are currently planning a feasibility study to demonstrate the utility and safety of this novel method.

Endoscopy_UCTN_Code_TTT_1AO_2AG

Competing interests

The authors declare that they have no conflict of interest.

The authors

Koichi Okamoto , **Tomoyuki Kawaguchi**, **Kaizo Kagemoto**, **Yoshifumi Kida**, **Yasuhiro Mitsui**, **Yasushi Sato**, **Tetsuji Takayama**

Department of Gastroenterology and Oncology, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan

Corresponding author

Koichi Okamoto, MD

Department of Gastroenterology and Oncology, Institute of Biomedical Sciences, Tokushima University Graduate School, 3-18-15, Kuramoto-cho, Tokushima City 770-8503, Japan

Fax: +81-88-633-9235

okamoto.koichi@tokushima-u.ac.jp

References

- [1] Binmoeller KF, Shah JN, Bhat YM et al. “Underwater” EMR of sporadic laterally spreading nonampullary duodenal adenomas (with video). *Gastrointest Endosc* 2013; 78: 496–502
- [2] Yamasaki Y, Uedo N, Takeuchi Y et al. Underwater endoscopic mucosal resection for superficial nonampullary duodenal adenomas. *Endoscopy* 2018; 50: 154–158
- [3] Takatori Y, Kato M, Masunaga T et al. Feasibility study of partial submucosal injection technique combining underwater EMR for superficial duodenal epithelial tumors. *Dig Dis Sci* 2022; 67: 971–977
- [4] Imai K, Hotta K, Ito S et al. Tip-in endoscopic mucosal resection for 15- to 25-mm colorectal adenomas: A single-center, randomized controlled trial (STAR Trial). *Am J Gastroenterol* 2021; 116: 1398–1405
- [5] Takada K, Hotta K, Imai K et al. Tip-in EMR as an alternative to endoscopic submucosal dissection for 20- to 30-mm nonpedunculated colorectal neoplasms. *Gastrointest Endosc* 2022; 96: 849–856.e3

Bibliography

Endoscopy 2023; 55: E965–E966

DOI 10.1055/a-2134-9080

ISSN 0013-726X

© 2023. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited.

(<https://creativecommons.org/licenses/by/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany



ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



E-Videos is an open access online section of the journal *Endoscopy*, reporting on interesting cases

and new techniques in gastroenterological endoscopy. All papers include a high-quality video and are published with a Creative Commons CC-BY license. *Endoscopy E-Videos* qualify for HINARI discounts and waivers and eligibility is automatically checked during the submission process. We grant 100% waivers to articles whose corresponding authors are based in Group A countries and 50% waivers to those who are based in Group B countries as classified by Research4Life (see: <https://www.research4life.org/access/eligibility/>).

This section has its own submission website at

<https://mc.manuscriptcentral.com/e-videos>