

Endoscopic ampullectomy: to inject or not to inject? The underwater technique

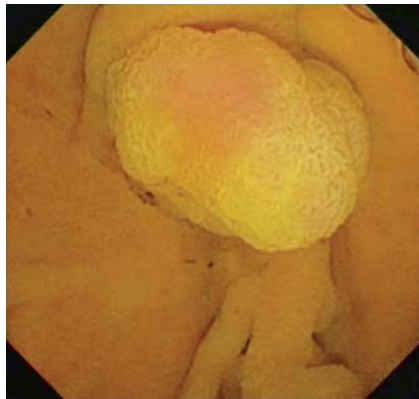


Fig. 1 Abnormal major papilla (underwater view).

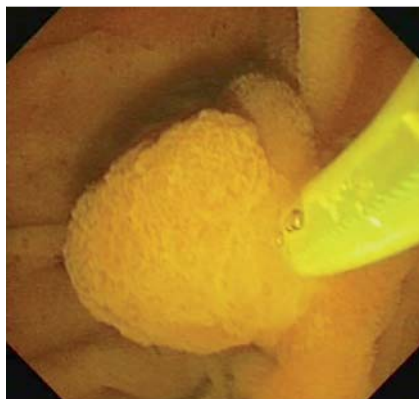


Fig. 2 Ensnares papilla during underwater ampullectomy.



Fig. 3 Endoscopic view following underwater ampullectomy.

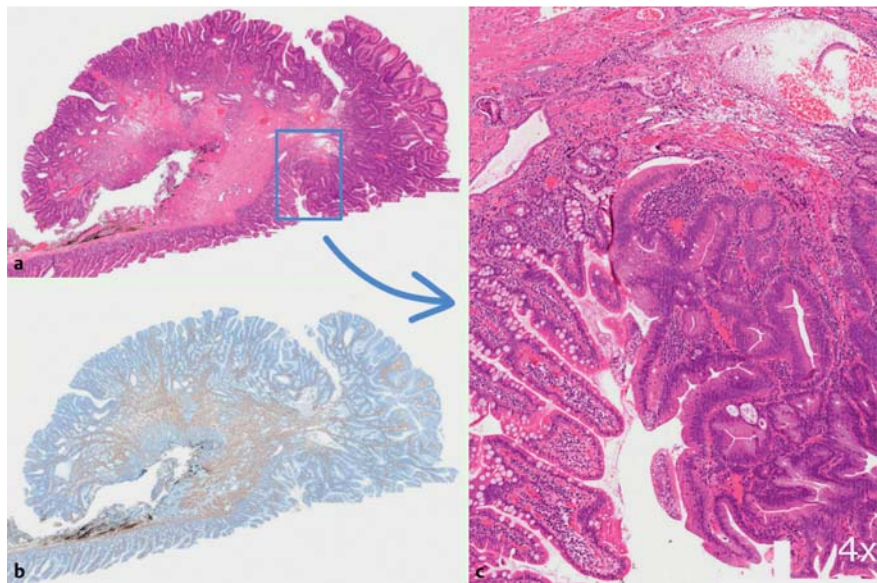


Fig. 4 Histological pictures. **a** Hematoxylin and eosin (H&E) low-power magnification microphotography showing the entire thickness of the resection (black ink on the deeper margin). **b** Smooth muscle actin stain confirms the muscularis mucosa layer. **c** Normal colonic mucosa on the right and dysplastic mucosa on the left (focal cribriform glandular architecture, high grade dysplasia) (H&E×4).

A 70-year-old man with a history of abdominal pain underwent esophagogastroduodenoscopy, which showed an abnormal major papilla of about 2 cm in diameter with a villous surface (● **Fig. 1**). Histology revealed a tubulovillous adenoma with focal high grade dysplasia. On endoscopic ultrasound, the lesion was confined to the mucosal layer.

Inspired by the work of Binmoeller et al. on their new approach, termed “The Underwater Technique,” for resection of nonampullary duodenal adenomas [1], we planned an endoscopic underwater ampullectomy.

The duodenoscope was equipped with an auxiliary water jet injection cap (BioShield irrigator; US Endoscopy, Mentor, Ohio, United States), to allow irrigation while leaving the operative channel free. Carbon dioxide insufflation was off during resection.

En bloc ampullectomy was performed with a standard polypectomy snare, using blended current (VIO 300D, DRY CUT, effect 5, 60 watts; ERBE Elektromedizin GmbH, Tübingen, Germany) (● **Fig. 2** and ● **Fig. 3**). The procedure was uneventful, and the patient was discharged 36 hours later.

Pathology confirmed the diagnosis of tubulovillous adenoma with high grade dysplasia. Resection margins were free of dysplasia, and the muscularis mucosae was entirely removed, as confirmed by smooth muscle actin immunohistochemical stain (● **Fig. 4**). At 3-month follow-up, endoscopy showed complete duodenal healing, with no histologic recurrence. Ampullary adenomas can occur sporadically or manifest as syndromes of genetic conditions, and can transform into malignant ampullary cancer [2]. Several authors advocate submucosal injection immediately before endoscopic ampullectomy, as done for resection of colorectal polyps. Others opt not to use submucosal injection. There are insufficient data to conclude that this is a necessary step in the procedure [2–5].

On the basis of Binmoeller’s results, we applied the underwater technique for endoscopic ampullectomy. Although the efficacy of this technique cannot be fully demonstrated with a single report, this application appeared to be feasible and safe, and we believe it may represent a potential alternative endoscopic approach to resection of ampullary adenomas.

Endoscopy_UCTN_Code_TTT_1AR_2AF

Competing interests: None

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DOI <http://dx.doi.org/10.1055/s-0034-1377538>
Endoscopy 2014; 46: E478–E479
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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