Article published online: 2022-11-11

Bile duct radiofrequency ablation for a residual adenoma after endoscopic papillectomy

OPEN ACCESS

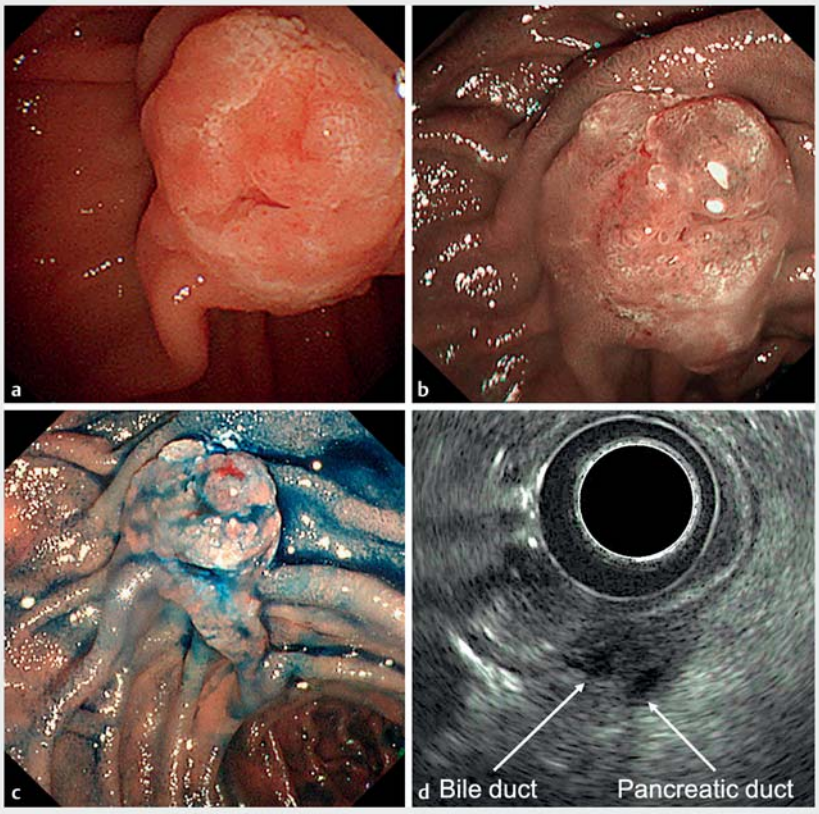
For residual or local recurrence of duodenal ampullary adenoma after endoscopic papillectomy, argon plasma coagulation (APC) has been reported to be useful; however, APC may be insufficient because deep or circumferential ablation in the distal bile duct is difficult to perform [1]. Recently, the usefulness of bile duct radiofrequency ablation (RFA) for residual adenomas has been reported, but the number of cases is still relatively small [2,3]. We report a case in which bile duct RFA was performed on a residual adenoma after endoscopic papillectomy.

The patient was a 78-year-old man who underwent endoscopic papillectomy for a duodenal ampullary adenoma (▶ **Fig. 1**). A papillary tumor appeared at the orifice of the bile duct during the procedure (▶ **Fig. 2**). In the post-resection specimen, the horizontal margin was negative, but the bile duct transection was positive, and the intraoperative biopsy from the bile duct orifice revealed an adenoma. A further endoscopic examination was performed 1 month later to evaluate the residual lesion and revealed a papillary lesion at the bile duct orifice (▶ **Fig. 3**). We therefore attempted bile duct RFA for the residual adenoma (▶ **Fig. 4**; ▶ **Video 1**).

After the bile duct orifice had been dilated, a cholangioscope was inserted and the papillary lesion was found to extend approximately 10 mm. A Habib Endo HPB catheter (Boston Scientific, Tokyo, Japan) and VIO3 (ERBE, Tokyo, Japan) radiofrequency device were used to perform bile duct RFA. Ablation was performed in four directions for a total of 90 seconds (effect 2.5; maximum 30 seconds/direction). After ablation, cholangioscopy confirmed the lesion had been ablated circumferentially. A follow-up endoscopy 1 week later revealed ulceration of the entire papillary area, and cholangioscopy confirmed that the bile duct was circumferentially ablated (▶ **Fig. 5**).

Bile duct RFA could be a promising treatment option for postendoscopic papillectomy residual adenomas, especially those extending into the deep bile duct.

Endoscopy_UCTN_Code_TTT_1AR_2AF



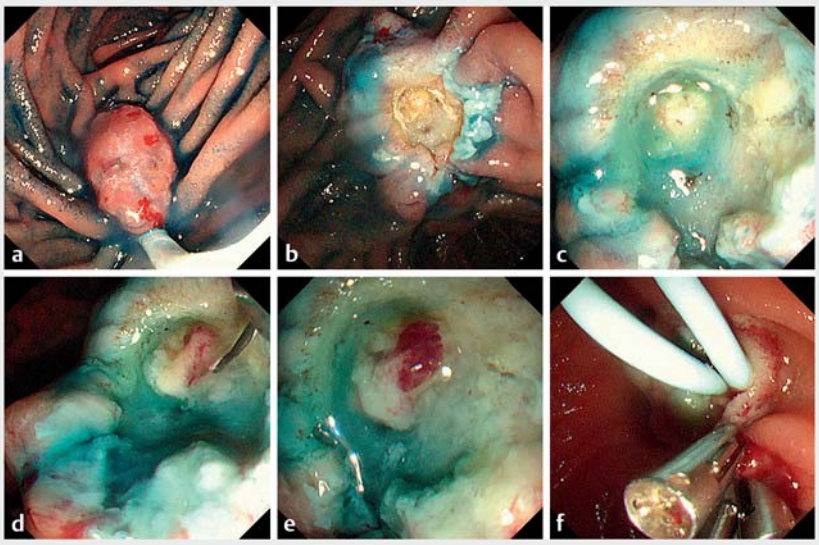
▶ **Fig. 1** A duodenal ampullary adenoma, later confirmed on biopsy, is seen prior to excision on: **a–c** endoscopic views; **d** endoscopic ultrasound, which did not show any obvious intraductal bile duct extension.

Funding

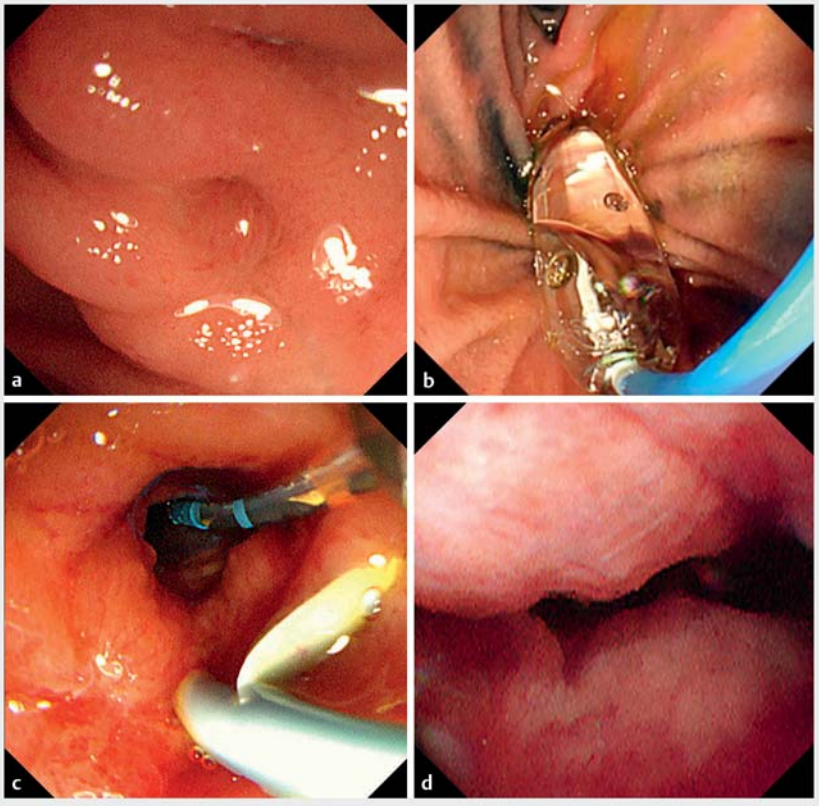
National Cancer Center Research and Development Fund
2022-A-16

Competing interests

The authors declare that they have no conflict of interest.



▶ **Fig. 2** Endoscopic views showing: **a–c** endoscopic en bloc resection being performed for the papillary adenoma; **d, e** a biopsy being performed after guidewire insertion into the pancreatic duct, because a papillary tumor appeared at the bile duct orifice; **f** plastic stents placed in the bile and pancreatic ducts after resection, and clipping suture on the anorectal side.



▶ **Fig. 3** Endoscopic views 1 month after the papillectomy showing: **a** a papillary lesion exposed at the bile duct orifice; **b–d** a cholangioscope inserted after balloon dilation, which was used to confirm that the lesion had extended into the bile duct approximately 10 mm from the bile duct orifice.

The authors

Kotaro Takeshita[1], Susumu Hijioka[1], Kosuke Maehara[1], Yuta Maruki[1], Yoshikuni Nagashio[1], Takuji Okusaka[1], Yutaka Saito[2]

1 Department of Hepatobiliary and Pancreatic Oncology, National Cancer Center Hospital, Tokyo, Japan

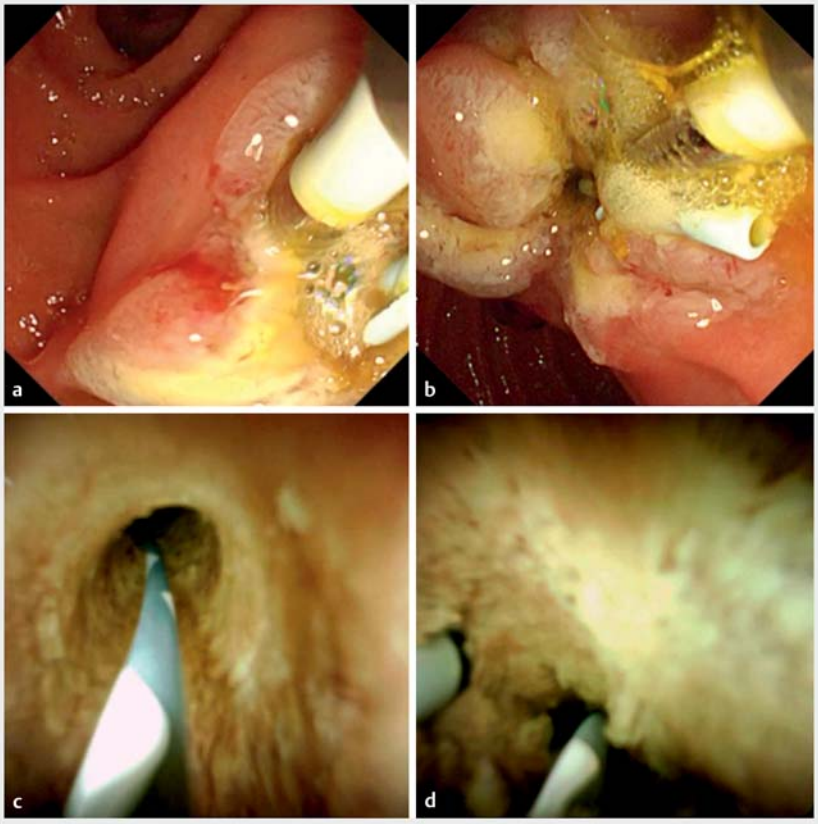
2 Endoscopy Division, National Cancer Center Hospital, Tokyo, Japan

Corresponding author

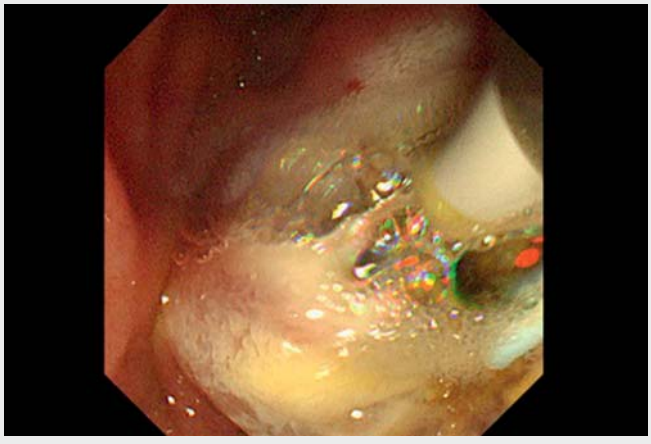
Susumu Hijioka, MD

Department of Hepatobiliary and Pancreatic Oncology, National Cancer Center Hospital, 5-1-1 Tsukiji, Chuo-ku, Tokyo, Japan

shijioka@ncc.go.jp



▶ **Fig. 4** A bile duct radiofrequency ablation (RFA) procedure was performed for the residual lesion, as seen on: **a, b** endoscopic view, with bile duct RFA performed in four directions for a total of 90 seconds (maximum of 30 seconds per direction); **c, d** cholangioscopic view after ablation, which confirmed that the lesion had been ablated circumferentially all the way to the area where adenoma extension had been observed.



Video 1 Bile duct radiofrequency ablation is performed for a residual adenoma extending into the deep bile duct after endoscopic papillectomy, with cholangioscopy performed pre- and post-procedure to evaluate treatment efficacy.

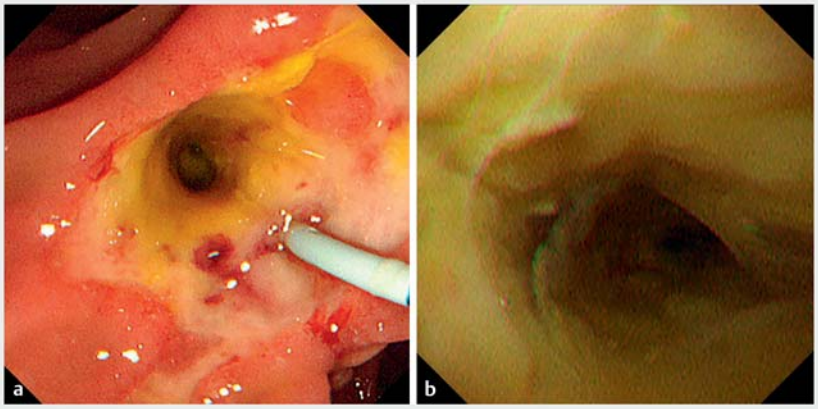
References

[1] Sakai A, Tsujimae M, Masuda A et al. Clinical outcomes of ampullary neoplasms in resected margin positive or uncertain cases after endoscopic papillectomy. World J Gastroenterol 2019; 25: 1387–1397
[2] Choi YH, Yoon SB, Chang JH et al. The safety of radiofrequency ablation using a novel temperature-controlled probe for the treatment of residual intraductal lesions after endoscopic papillectomy. Gut Liver 2021; 15: 307–314
[3] Yamamoto K, Itoi T, Tsuchiya T et al. Intraductal radiofrequency ablation therapy for eradication of intraductal residual lesions after endoscopic papillectomy for ampullary adenoma. J Hepatobiliary Pancreat Sci 2022. doi:10.1002/jhbp.1108

Bibliography

Endoscopy 2023; 55: E185–E188
DOI 10.1055/a-1960-3253
ISSN 0013-726X
published online 11.11.2022

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



▶ **Fig. 5** Images from follow-up 1 week after radiofrequency ablation showing: **a** on endoscopic view that the entire papillary area was ulcerated around the bile duct orifice; **b** on cholangioscopic view that the bile duct was circumferentially ablated all the way to the area where the lesion had been observed.