Bile duct radiofrequency ablation for a residual adenoma after endoscopic papillectomy

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.

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Competing interests

The authors declare that they have no conflict of interest.

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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.
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.
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.