A 51-year-old man underwent screening esophagogastroduodenoscopy (EGD) and was found to have a 15-mm duodenal adenoma opposite the ampulla of Vater. Endoscopic submucosal dissection (ESD) was attempted but was discontinued because of a perforation that was managed by clip closure. He was followed up periodically by EGD and a biopsy taken 2 years later revealed a possible adenocarcinoma. He was therefore referred to our hospital.

EGD revealed a superficial 20-mm elevated lesion (Fig. 1a). Conventional endoscopic mucosal resection (EMR) of the residual tumor with submucosal saline injection would have been difficult because of submucosal fibrosis. Furthermore, ESD for duodenal tumors carries a high risk of perforation [1], and performing ESD on residual lesions demands highly advanced skills. Underwater EMR (UEMR) was developed and described by Binmoeller et al. in 2012 [2]. We previously reported the usefulness of this technique for superficial non-ampullary duodenal adenomas [3]. As for colonic recurrent or residual lesions, UEMR is reportedly effective with a higher en bloc resection rate and lower recurrence rate than conventional EMR [4]. We therefore performed UEMR on this residual duodenal lesion.

We used a pediatric colonoscope (EVIS PCF-H290TI; Olympus Medical Systems, Tokyo, Japan) because it is preferable for duodenal lesions owing to its long length and wide down-angle. We evacuated air from the affected segment of lumen and infused water until the lumen was completely full (Fig. 1b), after which we performed hot snare polypectomy without submucosal injection using a Captivator (Boston Scientific, Tokyo, Japan). We resected the lesion en bloc in 4 minutes and completely closed the mucosal defect with clips (Fig. 1c, d; Video 1).
The patient commenced oral feeding on day 2 postoperatively and was discharged on day 5. Pathologically, the lesion was an intramucosal adenocarcinoma (Fig. 2). Neither endoscopic nor histologic residue was observed at the follow-up EGD 2 months later.

References


Competing interests

None