Preemptive purse-string suturing technique-assisted endoscopic papillectomy of ampullary adenoma

Endoscopic papillectomy has been recommended by the European Society of Gastrointestinal Endoscopy for the treatment of ampullary adenomas without intraductal extension [1]; however, it is a challenging procedure that is associated with serious adverse events [2], such as bleeding, which occurs in 11%–30% of cases [3]. Techniques used to manage bleeding and perforation include clip closure, but there is no agreement on a standard method [4]. Inspired by the endoscopic purse-string suturing (EPSS) method used for the closure of large gastrointestinal defects or perforations [5], we present a preliminary case of EPSS to facilitate the efficacy and safety of endoscopic papillectomy (▶Video 1).

A 68-year-old man with ampullary tumor (▶Fig. 1a) and absence of intraductal extension was referred for endoscopic treatment at our institution. The purse-string structure was created with an endoloop and several clips anchored to the normal mucosa 1.5 cm from the tumor boundary (▶Fig. 1b). After the tumor was firmly and completely encircled by the snare, it was resected en bloc leaving a large mucosal defect (▶Fig. 1c). We immediately extracted the specimen and placed a 7Fr biliary stent. During subsequent cannulation and insertion of a 5Fr plastic stent into the pancreatic duct, the defect started to bleed. Therefore, we slowly tightened the endoloop until the entire defect was closed and the bleeding stopped instantly (▶Fig. 1d). The resected specimen was confirmed as having adequate margins of normal mucosa (▶Fig. 1e).

At follow-up 2 weeks later, we removed the purse-string structure and the plastic stents, and confirmed healing by the presence of a neat scar around the major papilla.

EPSS-aided endoscopic papillectomy not only guarantees en bloc resection of the tumor but also prevents severe complications. With the prepared purse-string structure guarding the operative field, the tumor can be thoroughly resected with adequate negative margins. In addition, with the purse-string structure being tightened after endoscopic papillectomy, the risk of bleeding and perforation can be greatly reduced.

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Competing interests

The authors declare that they have no conflict of interest.

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### References


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**Fig. 1** Endoscopic view of the endoscopic purse-string suturing method during endoscopic papillectomy. (a) Ampullar lesion in white-light mode. (b) The endoloop was anchored to the normal mucosa with clips surrounding the tumor. (c) After the tumor was completely encircled by the snare, en bloc endoscopic papillectomy was carried out. (d) After the plastic stents were inserted into the common bile duct and main pancreatic duct, the mucosal defect was closed by slowly tightening the endoloop to control the bleeding. (e) The resected specimen was flattened and fixed onto a foam board, and confirmed to include adequate margins of normal mucosa.

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