VIDEO CASE REPORT

Endoscopic submucosal dissection for a laterally spreading ampullary carcinoma

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DESCRIPTION

Endoscopic papillectomy (EP) is not standard of care for early ampullary carcinoma but may be considered in select situations owing to its minimal invasiveness compared with pancreaticoduodenectomy and the low incidence of lymph node metastasis.[1,2] However, the curative resection rate of EP with negative margins was limited to approximately 87% of patients with neoplastic ampullary lesions.[3]

The curative resection rate of endoscopic submucosal dissection (ESD) is expected to be higher, even for a large ampullary lesion, than EP using a snare. ESD for ampullary

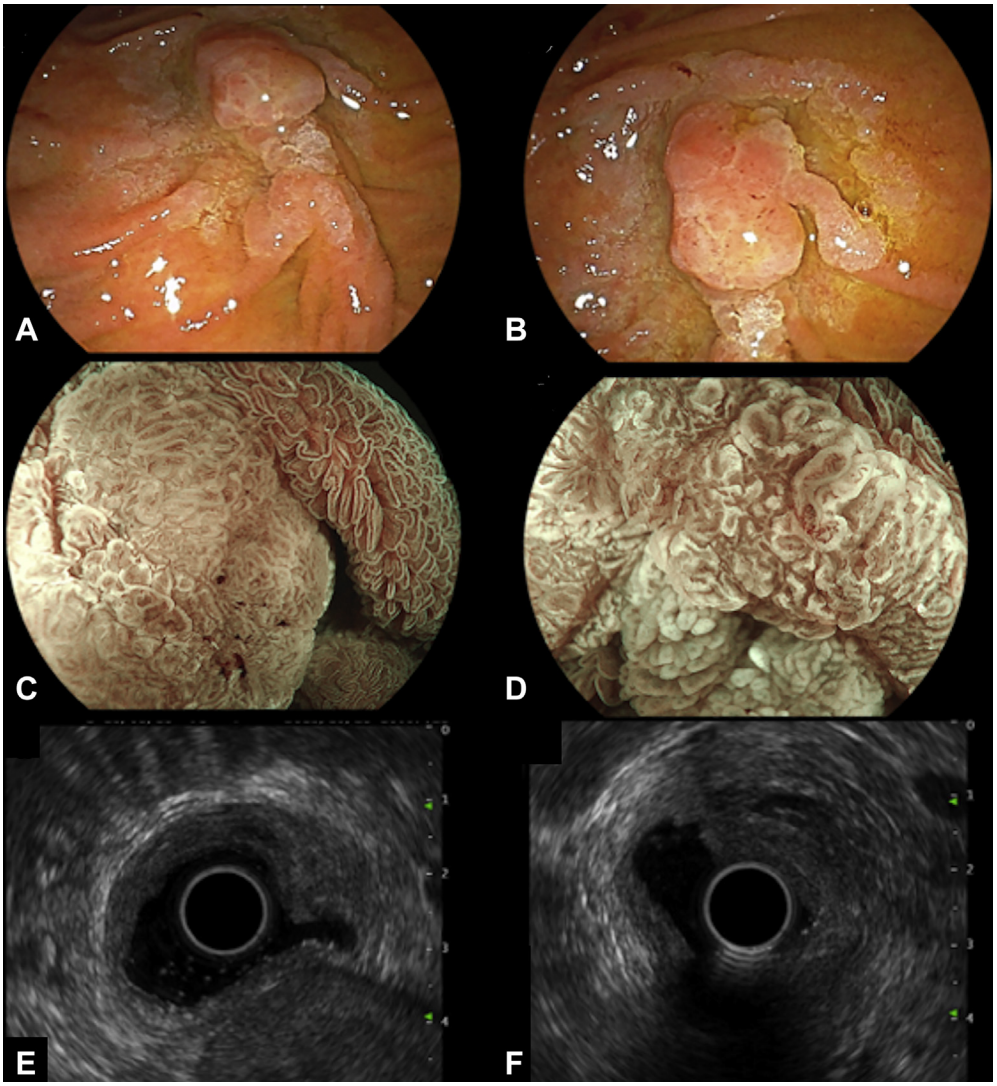

Figure 1. White-light imaging of a laterally spreading tumor approximately 35 mm in size, which was a slightly elevated lesion with a central protrusion located on the ampulla. **A,** Oral side. **B,** Anal side of the tumor. Magnifying blue-laser imaging of the tumor: **(C)** irregular microstructure and microvessels at the edge of the lesion and **(D)** at the center of the lesion. Endoscopic ultrasonography: **(E)** the lesion was a hypoechoic mass with a clear margin from the ampulla, and **(F)** the bile and pancreatic duct walls were normal and nondilated.

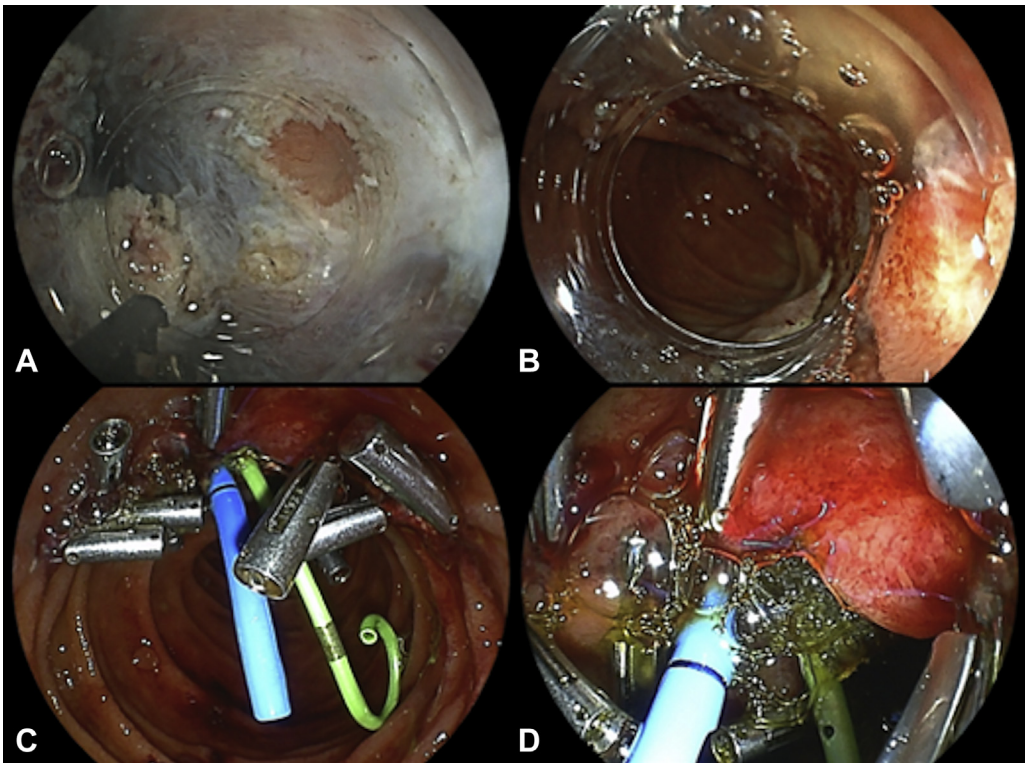

Figure 2. Endoscopic submucosal dissection for a laterally spreading papillary carcinoma. **A,** Submucosal dissection of the ampulla. **B,** En bloc resection of the tumor. **C,** A biliary stent and pancreatic stent with prophylactic closure of the mucosal defect using endoclips. **D,** A polyglycolic acid sheet with fibrin glue was placed and covered to prevent delayed perforation and bleeding.

lesions is the most challenging endoscopic procedure, owing to the associated technical difficulties of endoscope maneuverability and the high risk of perioperative adverse events. However, we attempted ESD for a laterally spreading duodenal papillary carcinoma in light of the development of a safe and efficient duodenal ESD using a scissor-type knife for nonampullary duodenal tumors.[4]

A laterally spreading duodenal papillary carcinoma was sporadically detected in a 78-year-old woman during screening esophagogastroduodenoscopy before low anterior resection for rectal cancer. The preoperative histologic diagnosis of the biopsy specimens was a well-differentiated tubular adenocarcinoma. The patient was referred to our hospital for treatment of duodenal papillary carcinoma. A laterally spreading tumor approximately 3 cm in size presented as a slightly elevated lesion with a central protrusion located on the ampulla (Fig. 1A and B). EUS revealed that the lesion was a hypoechoic mass with a clear margin from the ampulla, and bile and pancreatic duct wall were normal and nondilated. Therefore, we diagnosed the intramucosal papillary neoplasm as lacking infiltration into the sphincter of Oddi (Fig. 1C and D).

We discussed the treatment strategy for this patient with surgeons in an institutional cancer board. Considering the risks of postoperative death and adverse events after pancreatoduodenectomy for this elderly patient, we decided that ESD was a better choice. Therefore, we performed ESD to remove the lesion with negative margins (Video 1, available online at www.giejournal.org).

First, we performed ESD with the patient under conscious sedation with pentazocine and propofol. A VIO300D (ERBE, Tübingen, Germany) was used during the ESD procedure. After submucosal injection of sodium hyaluronate solution, we incised the mucosa from the proximal side of the ampulla and dissected the submucosal layer using an EG-L580RD endoscope (Fujifilm Co, Ltd, Tokyo, Japan) with a scissor-type knife (Clutch Cutter 3.5 mm; Fujifilm Co Ltd) in Endocut I mode (effect 1, duration 4, interval 1) after soft coagulation mode (effect 5, 100 W). We then created 2 submucosal tunnels to identify the dissection line of the ampulla in only Endocut I mode. After completion of the tunnels, the ampulla was removed directly (Fig. 2A). Subsequently, a mucosal incision was performed circumferentially, and en bloc resection was achieved (Fig. 2B).

After resection of the lesion, a 7F biliary stent (Flexima, Boston Scientific, Tokyo, Japan) and a 5F pancreatic stent (Geenen; Cook Medical Japan, Tokyo, Japan) were placed into the common bile duct and common pancreatic duct, respectively. It was easy to perform cannulation of the bile duct and pancreatic duct because each duct was clearly distinct after ESD owing to complete papillectomy. Prophylactic closure of the mucosal defect was attempted using endoclips (Sure Clip; Micro-Tech Co, Ltd, Nanjing, China)

to prevent delayed perforation and bleeding (Fig. 2C). However, the mucosal defects remained near the ampulla; it was not possible to place the clips because of the stents that were in place. A polyglycolic acid sheet (Neoveil, GUNZE Ltd, Kyoto, Japan) with fibrin glue was placed and covered (Fig. 2D).

The patient had a good clinical course and no adverse events. The pathologic diagnosis was intramucosal tubular adenocarcinoma with no infiltration into the sphincter of Oddi, and there were negative horizontal and vertical margins. Therefore, curative resection was performed. The patient had no symptoms or recurrence 1 year after the ESD.

In conclusion, ESD is a feasible and effective treatment for a laterally spreading duodenal papillary carcinoma.

DISCLOSURE

Dr Dohi and Dr Yoshida both have research grants from Fujifilm Co. Ltd. All other authors disclosed no financial relationships.

Abbreviations: EP, endoscopic papillectomy; ESD, endoscopic submucosal dissection.

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https://doi.org/10.1016/j.vgie.2021.11.001