



A case of endoscopic minor duodenal papillectomy after pancreatic stent placement using an endoscopic ultrasonography-guided rendezvous method

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BACKGROUND

Endoscopic papillectomy is a minimally invasive procedure for duodenal papillary tumors. However, it is often associated with adverse events, such as postprocedural pancreatitis, bleeding, and duodenal perforation. Although postprocedural pancreatitis is a major problem, the placement of a pancreatic plastic stent (p-PS) can reduce the risk of pancreatitis. Generally, a p-PS is inserted after endoscopic papillectomy; however, the procedure can be unsuccessful.¹ We used the inside pancreatic stenting papillectomy method to insert a p-PS.² The inside pancreatic stenting papillectomy method may be used to ensure successful p-PS insertion. This method involves placement of a p-PS tied to a suture above the papilla before endoscopic papillectomy. The p-PS is then placed in the appropriate position by pulling the suture attached to the stent after endoscopic papillectomy. Although endoscopic papillectomy has been performed for many tumors originating from a major duodenal papilla, it is rarely performed for a tumor of the minor papilla. We report a case of the inside pancreatic stenting papillectomy method for a minor duodenal papilla using the EUS-guided rendezvous method.

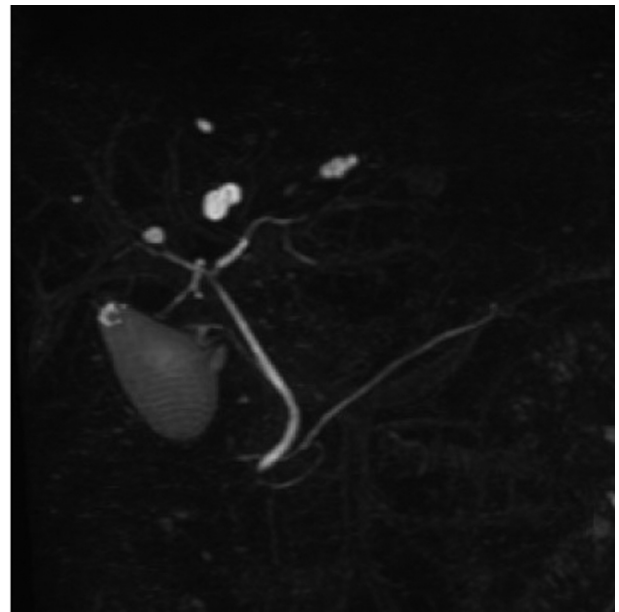


Figure 2. Preoperative magnetic resonance cholangiopancreatography revealing pancreatic divisum.

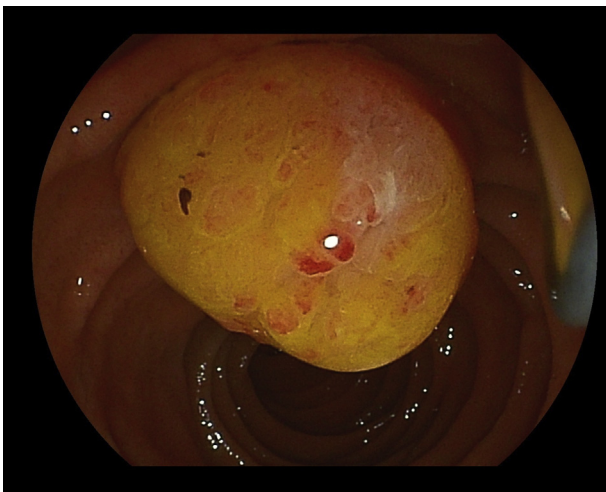


Figure 1. Minor duodenal papillary tumor.

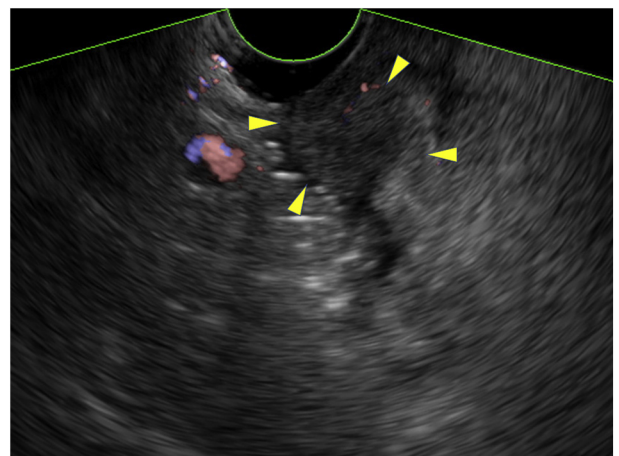


Figure 3. EUS revealed no invasion of the muscularis propria or pancreatic duct.

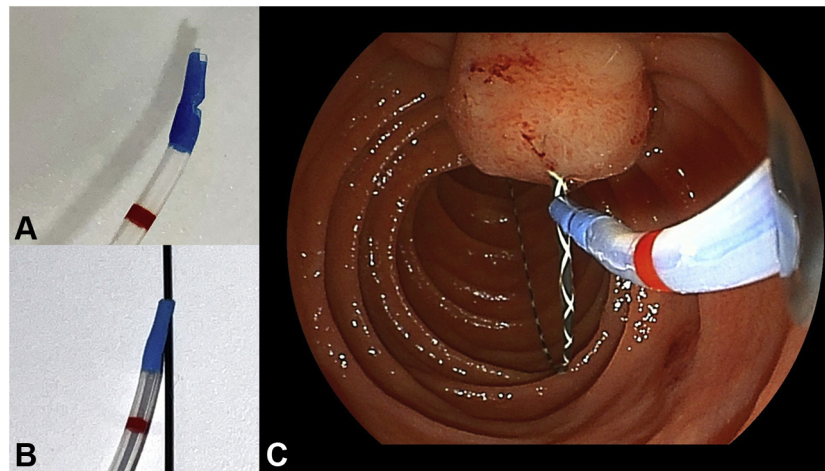


Figure 4. **A,** Create a slit on the tip of the catheter. **B,** Snap onto the rendezvous guidewire. **C,** Successful cannulation into the duct of Santorini using the hitch-and-ride method.



Figure 5. Pancreatography showing a highly angulated duct of Santorini.

CASE, PROCEDURE, AND OUTCOME

A 65-year-old man with no relevant medical history was scheduled for endoscopic papillectomy for adenoma of the minor duodenal papilla that was previously diagnosed by pathology at another hospital (Fig. 1). Preoperative magnetic resonance cholangiopancreatography revealed pancreatic divisum (Fig. 2). We attempted to place a p-PS through the minor duodenal papilla before endoscopic papillectomy; however, this attempt was unsuccessful. Therefore, the patient was referred to our hospital for treatment.

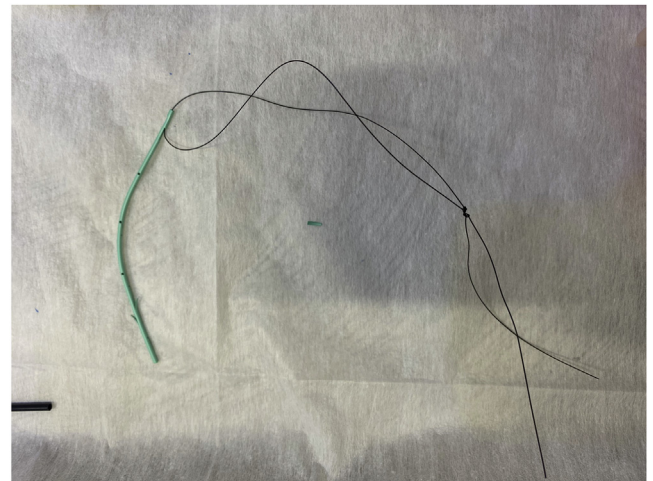


Figure 6. Duodenal flap of the 5F, 7-cm pancreatic plastic stent was cut with a surgical scalpel, and a 0.3-mm silk suture was used to tie the duodenal edge of the stent.

First, cannulation into the duct of Santorini was attempted again in our hospital but was unsuccessful. EUS revealed no invasion of the muscularis propria or pancreatic duct (Fig. 3). Thus, we decided to treat the patient using the inside pancreatic stenting papillectomy method combined with EUS-guided rendezvous. Under endoscopic ultrasound guidance (EG-580UT; Fujifilm, Tokyo, Japan), a 19-gauge FNA needle (EZshot3; Olympus, Tokyo, Japan) was inserted into the stomach and used to puncture the pancreatic duct. A 0.025-inch guidewire (VisiGlide 2; Olympus) was advanced into the duct of Santorini, and an adequate length of the guidewire was inserted into the duodenum through the minor duodenal papilla.

The duct was cannulated with a modified MTW catheter (ABIS, Tokyo, Japan) using the hitch-and-ride method (Fig. 4).^{3,4} The hitch-and-ride method is a cannulation

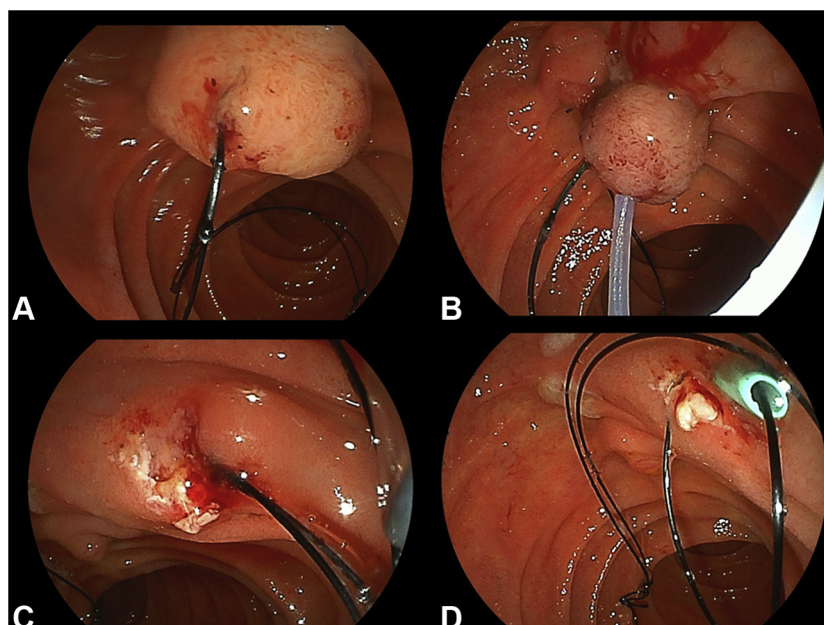


Figure 7. **A**, Sutured stent was placed into the pancreatic duct above the minor duodenal papilla. **B**, Tumor and silk suture were grasped with a 25-mm oval polypectomy snare. **C**, Minor papillary tumor was resected, leaving the suture in place. **D**, Proximal end of the pancreatic plastic stent placed into the duct of Santorini was pulled into the duodenum.

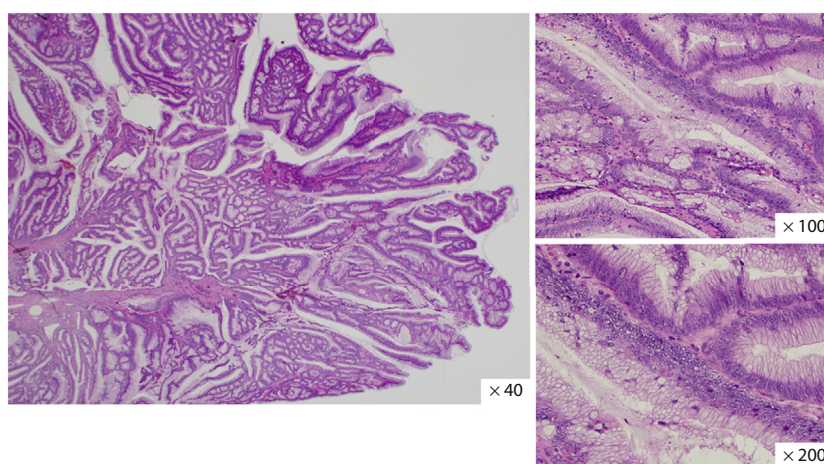


Figure 8. Tumor was histologically diagnosed as adenocarcinoma with an adenomatous component.

technique used to reduce the risk of guidewire loss during EUS-guided rendezvous. When this approach is used, a slit is created on the tip of the catheter, and it is snapped onto the rendezvous guidewire and advanced through the papilla. Compared with the over-the-wire and along-the-wire methods, the hitch-and-ride method is reported to have a shorter procedure time and less guidewire loss.

Pancreatography showed a highly angulated duct (Fig. 5). A duodenal flap of the 5F, 7-cm p-PS (Advanix; Boston Scientific Co, Tokyo, Japan) was cut with a surgical

scalpel and tied to the duodenal edge of the stent with a 0.3-mm silk suture (braided silk; Ethicon Inc, Bridgewater, NJ, USA). The suture tied to the stent was ligated at the center (Fig. 6). The sutured stent was then inserted into the pancreatic duct above the minor duodenal papilla (Fig. 7A).

The tumor and silk suture were held together by a 25-mm oval polypectomy snare (Snare Master; Olympus), and the tumor was resected using an electrosurgical generator (ICC 200; ERBE Corp, Tübingen, Germany) in 120-W

endocut mode (Fig. 7B). The resected tumor was grasped using the grasping forceps and pulled out of the body along with the scope. The suture tied to the p-PS was grasped by biopsy forceps and pulled into the duodenum (Fig. 7C and D; Video 1, available online at www.vgiejournal.org). The patient was discharged on postoperative day 7 without postprocedural pancreatitis or other adverse events. The tumor was pathologically diagnosed as adenocarcinoma (Fig. 8). After papillectomy, pancreaticoduodenectomy was performed, but there was no residual tumor.

CONCLUSION

If pancreatic juice does not flow through the duct of Wirsung owing to pancreatic divisum, postprocedural pancreatitis may occur because of obstruction of the duct of Santorini caused by minor endoscopic papillectomy. Therefore, it is essential to maintain the outflow of pancreatic juice from the latter duct by placing a pancreatic stent after endoscopic minor papillectomy. It is often difficult to insert a pancreatic stent through the minor duodenal papilla. Therefore, in the case of a minor duodenal papillary tumor, a pancreatic stent may be inserted by EUS-guided rendezvous. By combining EUS-guided rendezvous with the inside pancreatic stenting papillectomy method, minor endoscopic papillectomy can be safely performed, even in patients with pancreatic divisum.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviation: p-PS, pancreatic plastic stent.

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<https://doi.org/10.1016/j.vgie.2022.02.007>

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