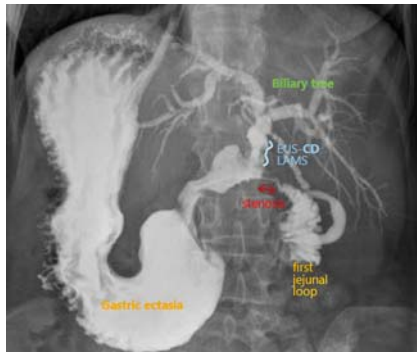
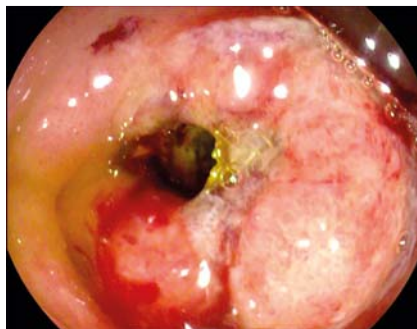


## Endoscopic ultrasound-guided gastrojejunostomy does not prevent pancreaticoduodenectomy after long-term symptom-free neoadjuvant treatment

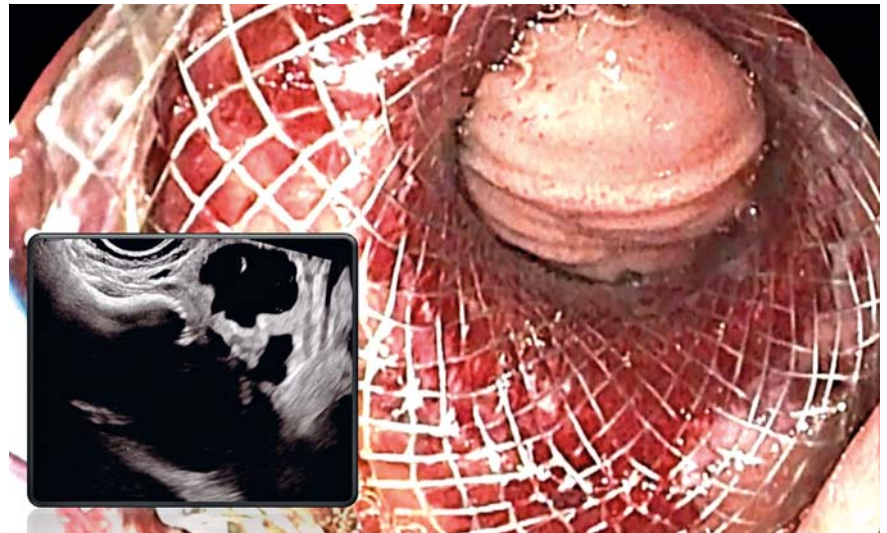


► **Fig. 1** Gastrointestinal series showing gastric ectasia due to a short duodenal stenosis, with contrast accessing the biliary tree more easily through the lumen-apposing metal stent. EUS-CD, endoscopic ultrasound-guided choledochoduodenostomy; LAMS, lumen-apposing metal stent.

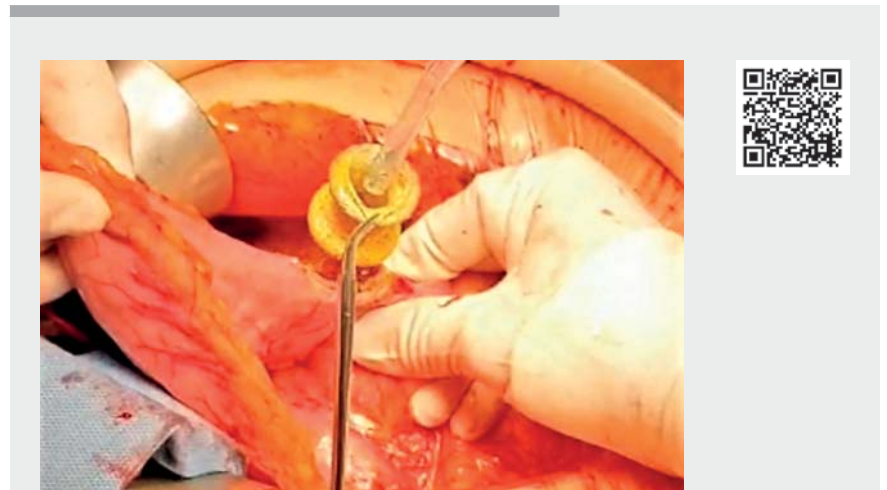


► **Fig. 2** Endoscopic view of the duodenal infiltration of the bulb, with previous endoscopic ultrasound-guided choledochoduodenostomy lumen-apposing metal stent barely visible.

A 55-year-old woman was diagnosed with pancreatic head adenocarcinoma with hepatic artery and mesenteric vein contact. Due to cholangitis and papillary infiltration, an endoscopic ultrasound-guided choledochoduodenostomy (EUS-CD) was performed with an 8 × 8-mm electrocautery-enhanced lumen-apposing metal stent (LAMS; Hot Axios; Boston Scientific, Marlborough, Massachusetts, USA). One month later, she experienced gastric



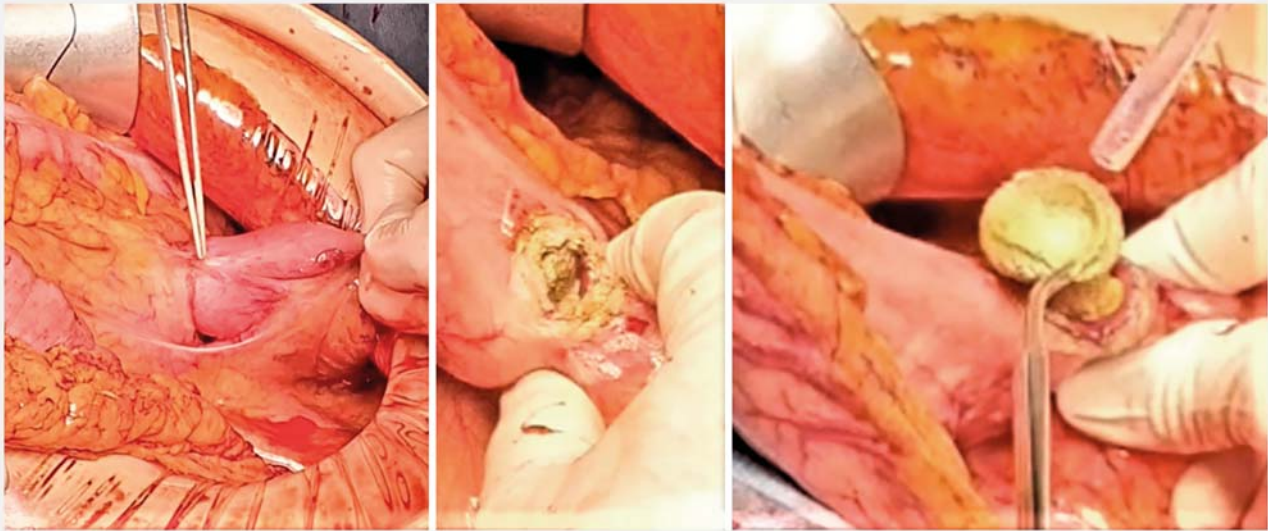
► **Fig. 3** Endoscopic ultrasound-guided gastrojejunostomy using a 20-mm electrocautery-enhanced lumen-apposing metal stent.



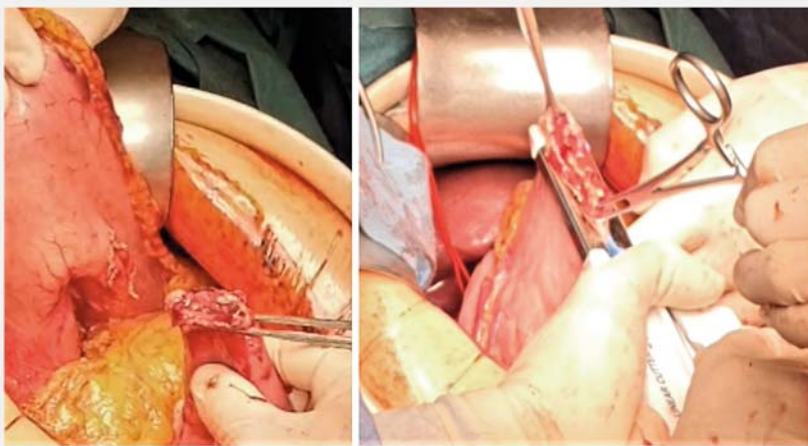
► **Video 1** Whipple resection after endoscopic ultrasound-guided gastrojejunostomy and choledochoduodenostomy.

outlet obstruction (GOO) secondary to duodenal infiltration (► **Fig. 1**). Endoscopically, the former EUS-CD LAMS was barely visible due to neoplastic infiltration (► **Fig. 2**). In order not to hinder biliary drainage, an EUS-guided gastrojejunostomy (EUS-GJ) was performed after

fluid injection of the jejunum and free-hand placement of a 20 × 10-mm LAMS (Hot Axios), using wireless simplified (WEST) technique [1] (► **Fig. 3**). The patient resumed feeding on postoperative day (POD) 1 and was discharged on POD 5. She started neoadju-



► **Fig. 4** Surgical identification of the endoscopic ultrasound-guided gastrojejunostomy and removal of the lumen-apposing metal stent.



► **Fig. 5** Preparation of the jejunal loop for surgical anastomosis and closure of the gastrojejunostomy using a stapler.

vant PAXG treatment (nab-paclitaxel, gemcitabine, capecitabine, cisplatin [2]) on POD 11. Computed tomography after 8 months showed significant regression of the lesion and its vascular contacts, and Whipple surgery was proposed after multidisciplinary discussion (► **Video 1**). Surgical identification and disconnection of the EUS-GJ took no more than 20 seconds. The gastrojejunostomy site was cut on the central tract of the LAMS, and the stent was extracted (► **Fig. 4**). The stomach was sutured using a linear-cutting stapler, the first jejunal loop was resected, and a termino-lateral gastrojejunos-

tomy was performed (► **Fig. 5**). Hepaticojejunostomy was also not complicated by EUS-CD LAMS. Postoperative gastrointestinal series showed good gastric outlet and no contrast leakage. The patient was discharged after endoscopic management of one postoperative collection, and was feeling well after 96 days of follow-up.

While surgery after EUS-CD has been reported previously [3,4], there is no published experience of pancreaticoduodenectomy following EUS-GJ. In this patient, EUS-CD+GJ provided 8 months free of jaundice and GOO and a rapid

initiation of a neoadjuvant treatment, without affecting safety and oncological radicalism of subsequent surgery. Further evaluation of EUS-guided double bypass in the bridge-to-surgery scenario is therefore proposed.

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### Competing interests

The authors declare that they have no conflict of interest.

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