A 68-year-old man presented with abdominal pain, jaundice, and weight loss for 1 month. Abdominal computed tomography revealed a 3.5 × 3.5 × 3.2-cm heterogeneous enhancing periampullary mass with adjacent bowel wall invasion at the second part duodenum, causing luminal narrowing of the second part duodenum and upstream dilatation of the common bile duct (▶Fig. 1).

Endoscopic retrograde cholangiopancreatography (ERCP) procedure was not possible owing to a large friable ampullary mass causing supra-ampullary duodenal obstruction (▶Fig. 2). An endoscopic ultrasound-guided choledochoduodenostomy (EUS-CDS) was consequently performed (▶Video 1) with a linear echoendoscope (GF-UCT180; Olympus, Aizu, Japan). A dilated distal common bile duct (CBD) from an ampullary mass was shown (▶Fig. 3).

An 8 × 12-mm lumen-apposing metal stent (LAMS) was successfully placed transduodenally into the distal common bile duct (▶Fig. 4). An 16 × 20-mm lumen-apposing metal stent (LAMS) was successfully placed transgastrically into the lumen of the jejunum (▶Fig. 5).
wire (Visiglide 2, Olympus) was used for puncturing. A 6-Fr cystotome (Endo-Flex, Voerde, Germany) and a 4-mm balloon dilatation catheter (Hurricane RX; Boston Scientific, Cork, Ireland) were used for dilation. An 8 × 12-mm lumen-apposing metal stent (LAMS) (Niti-S Spaxus; Taewoong Medical Co., Ilsan, Korea) was successfully placed transduodenally into the distal CBD (Fig. 4). Subsequently, an EUS-guided gastrojejunostomy was performed. A 10-Fr nasobiliary catheter (Flexima; Boston Scientific, Marlborough, Massachusetts, USA) was placed into the jejunum to flush a mix of diluted contrast, saline, and methylene blue into the lumen of the jejunum in order to distend the small bowel loop. A 16 × 20-mm LAMS with an electrocautery delivery system (Niti-S Spaxus; Taewoong Medical Co.) was successfully placed transgastrically into the lumen of the jejunum (Fig. 5). The patient resumed diet with a decline of bilirubin level at 48 hours after the procedure without adverse events.

This case reported the feasibility of a combination of EUS-guided choledochoduodenostomy and EUS-guided gastrojejunostomy to resolve a problem of bile duct and duodenal obstruction type II [1]. Previously, most literature used a combination of EUS-guided biliary drainage and duodenal stents with a technical and clinical success rate of 71.4 % to 100 % and 94.1 % to 100 %, respectively [2]. Future study to compare the efficacy of a combined EUS-guided biliary drainage with EUS-guided gastrojejunostomy versus EUS-guided biliary drainage with a duodenal stent is warranted.

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Competing interests

The authors declare that they have no conflict of interest.

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