Simultaneous endoscopic ultrasound-guided treatment of intestinal and biliary obstruction due to massive lymphoma of the duodenal papilla

► **Fig. 1** The cavity with massive neoplastic infiltration within the descending part of the duodenum visible in esophagogastroduodenoscopy.

► **Fig. 2** Choledochoduodenostomy created by Hot AXIOS stent (6 × 8 mm). Orange arrow, common bile duct (CBD); green arrow, implanted Hot AXIOS stent.

► **Fig. 3** Fluoroscopic image of gastrojejunostomy created by Hot AXIOS stent (20 × 10 mm).

► **Video 1** Simultaneous endoscopic ultrasound-guided choledochoduodenostomy and gastrojejunostomy for treatment of intestinal and biliary obstruction due to massive lymphoma of the duodenal papilla.

Since endoscopic ultrasound (EUS)-guided anastomoses of the gastrointestinal (GI) tract were first performed for biliary [1] and GI outlet obstructions [2], reported data have confirmed its safety and efficacy as an alternative modality for selected patients [3].

We report a case of a 78-year-old woman with a gastrointestinal and biliary tract obstruction due to B-cell lymphoma of the duodenal papilla who underwent simultaneous choledochoduodenostomy and gastrojejunostomy under EUS guidance (► **Video 1**).

The patient presented in the emergency department with symptoms of GI tract obstruction and jaundice. Gastroscopy revealed a cavity with massive neoplastic infiltration within the descending part of the duodenum (► **Fig. 1**). EUS showed metastatic lymph nodes and a double duct sign caused by a hypoechoic tumor of the duodenal papilla infiltrating the duodenal wall and the head of the pancreas. EUS-guided fine needle aspira-

tion confirmed the diagnosis of mucosa-associated lymphoid tissue (MALT) lymphoma.

The patient qualified for systemic treatment, however gastrointestinal and biliary patency had to be restored first, and therefore two anastomoses with lumen-apposing metal stents (LAMs) were created. The first procedure was a choledochoduodenostomy created with a 6 × 8-mm Hot AXIOS stent (Boston Scientific, Marlborough, Massachusetts, USA) (► **Fig. 2**). For the subsequent gastrojejunostomy, a standard endoscope was used to pass a guidewire and a catheter through the infiltrated second part of the duodenum. Contrast solution was then injected under fluoroscopic guidance into the intestinal lumen. After endosonographic visualization of the optimal site, a 20 × 10-mm Hot AXIOS stent was implanted, followed by balloon dilatation of the stent lumen (► **Fig. 3**). No complications were observed. After resolution of jaundice and normalization of

laboratory parameters, the patient started systemic treatment without any symptoms of obstruction.

This case is of importance as it shows that creating anastomoses under EUS guidance allows minimally invasive treatment of GI tract and biliary tract obstruction during the same procedure. Furthermore, compared to surgery, this less invasive approach increases the patient's chance of receiving immediate systemic therapy with a higher likelihood of partial or complete remission.

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Competing interests

The authors declare that they have no conflict of interest.

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