Endoscopic ultrasound-guided gastroenterostomy with water-jet filling technique through a 19G needle to treat complete malignant duodenal obstruction

Duodenal self-expandable metal stenting is the most common treatment for duodenal malignant obstruction. However, when it is impossible to pass a guidewire through the obstruction, gastroenterostomy using a lumen-apposing metal stent (LAMS) is an effective alternative [1]. Nevertheless, it is commonly necessary to introduce a filling catheter to fill the bowel with water [2] or to place a guidance balloon [3].

Our case involved an obstruction so severe that even a guidewire could not be passed through the tumor. The patient was a 72-year-old man, with a past history of terminal colostomy for colon cancer, who was referred for a duodenal obstruction due to pancreatic adenocarcinoma. Two attempts at duodenal stenting failed and we decided to perform an endoscopic ultrasound (EUS)-guided gastroenterostomy as an alternative.

EUS-guided identification of the duodenum where it was exiting from the large tumor (▶ Fig. 1; ▶ Video 1) allowed targeted puncture with a 19G needle. To fill the bowel quickly, we first injected contrast and then immediately connected the water pump directly to the 19G needle (▶ Fig. 2) to increase the liquid flow rate in the bowel and obtain a large expansion. When the duodenum was distended, a guidewire was placed and a 20 × 10-mm LAMS (Axios; Boston Scientific, Marlborough, Massachusetts, USA) was inserted. No leakage was apparent on the radiographic check.

The same evening, transit has resumed through the colostomy and, despite initial dietary instructions, the patient left the unit to eat a hamburger. At 1-month follow-up, no postoperative complications had occurred and the patient had gained 4 kg.

The use of the water pump directly on the needle is a simple technique to obtain bowel filling as quickly as possible, allowing a large distension without multiple manipulations of the syringe.

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Competing interests
The authors declare that they have no conflict of interest.

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