Video

EUS-IR-Guided Revision of Whipple Anatomy for Concomitant Afferent and Efferent Limb Obstruction

Yen-I. Chen, MD¹, Corey S. Miller, MD¹, Ahmad Hashim, MD¹, David Valenti, MD, MSc², Peter Metrakos, MD³, Jeffrey Barkun, MD, MSc³, George Zogopoulos, MD, PhD³, Alan N. Barkun, MD, MSc¹ and Ali Bessissow, MD²

SUPPLEMENTARY MATERIAL accompanies this paper at <https://doi.org/10.1038/s41395-018-0411-2>

Am J Gastroenterol (2018) 113:1747. <https://doi.org/10.1038/s41395-018-0411-2>

Fig. 1 A 60-year-old man with pancreatic cancer who previously underwent pancreaticoduodenectomy presented with intractable vomiting. Computed tomography scan demonstrated tumor recurrence at the gastro-jejunal anastomosis with a dilated afferent limb. A percutaneous biliary tube (PBT) was initially inserted for urgent decompression. Gastroscopy demonstrated complete obstruction of both afferent and efferent limbs at the level of the anastomosis. To avoid the risk of enteral stent dysfunction and the morbidity and mortality associated with surgery, a multidisciplinary decision and consent was made with the patient and family to attempt endoscopic ultrasound-interventional radiology (EUS-IR)-guided double gastroenterostomy. Using the percutaneous access, a 0.035-inch guidewire was advanced through the biliary system and into the afferent limb then manipulated through the obstructed gastrojejunostomy into the efferent limb. A 20-mm dilating balloon was inflated in a segment of the efferent limb close to the stomach (**a**). Under EUS guidance, the balloon was punctured transgastrically using a 19-gauge needle. A guidewire was advanced through the needle into the efferent limb, captured with a snare and pulled through the percutaneous access. Applying tension to both ends of the wire, the gastroenterostomy tract was dilated to 4 mm followed by insertion of a non-cautery-assisted 15 mm lumen apposing metal stent (LAMS, Axios™; Boston Scientific, Marlborough, Massachusetts) (**b**). The same technique was repeated for the afferent limb, ending with deployment of a second LAMS (**c**). Enterogram from the PBT showed excellent flow of contrast from the afferent limb across both stents into the efferent limb. Two days post procedure, the patient developed recurrent obstruction. Gastroscopy confirmed a large amount of debris blocking the afferent LAMS. Both limbs were dilated using a 15 mm balloon with excellent results (**d**, **e**). The patient was able to tolerate a full diet within 24 h and did not have recurrent obstructive symptoms at two-month follow-up (Informed consent was obtained from the patient for the publication of his information and imaging.)

¹Division of Gastroenterology and Hepatology, McGill University Health Centre, Montreal, QC, Canada. ²Department of Radiology, McGill University Health Centre, Montreal, QC, Canada. ³Department of Surgery, McGill University Health Centre, Montreal, QC, Canada. **Correspondence:** Y.-I.C. (email: yen-i.chen@mcgill.ca)

Received 28 August 2018; accepted 19 October 2018; Published online 21 November 2018