

Billroth II gastrectomy complicated by gastrojejunocolonic fistulas, treated endoscopically with a cardiac septal defect closure device

Gastrojejunocolonic fistula is a severe complication of gastrectomy with mainly Billroth II reconstruction carried out for peptic ulcer or malignant disease. It may develop 1–20 years after the procedure. Since the small bowel is bypassed, malnutrition due to malabsorption occurs [1,2]. A 58-year-old Greek man was admitted for fecal-smelling eructation, diarrhea, and weight loss during the past year. He had undergone a distal gastric resection with Billroth II reconstruction for a perforated duodenal ulcer 21 years ago. Barium meal and computed tomography enteroclysis studies revealed fistulous tracts between the transverse colon, the upper jejunum, and the gastric remnant (▶ Fig. 1). Upper gastrointestinal endoscopy confirmed the above findings and showed fecal material into the gastric remnant lumen (▶ Fig. 2). The patient refused surgery and after malignancy was excluded, we attempted to occlude both fistulas with the Amplatzer atrial septal defect closure device (9-ASD-040; AGA Medical Corp., Plymouth, Minnesota, USA), an idea based on the report of Melmed et al. [3]. We modified the technique of device delivery by using the endoscope itself to upload, guide, and deploy the Amplatzer device through the wide fistula tract (▶ Fig. 3, ▶ Video 1).

The procedure was uneventful and 1 week later, an endoscopy showed the device at the gastroenterostomy site without fecal material into the gastric lumen (▶ Fig. 4); a small but functionally insignificant leakage of Gastrografin was also noted (▶ Fig. 5). The patient's condition improved with cessation of fecal-smelling eructation and diarrhea and an increase in appetite and weight.

It is recommended that malnutrition should be corrected and radical surgery carried out with resection of the entire



Fig. 1 Axial computed tomography (CT) enteroclysis demonstrating a fistula between the greater curvature of the stomach and the transverse colon (arrow).

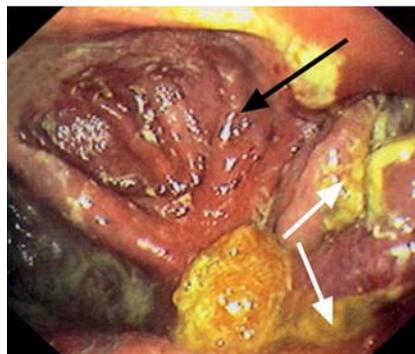


Fig. 2 Endoscopic appearance of two neighboring fistulas discharging fecal material (white arrows) close to the gastroenteroanastomosis (black arrow).

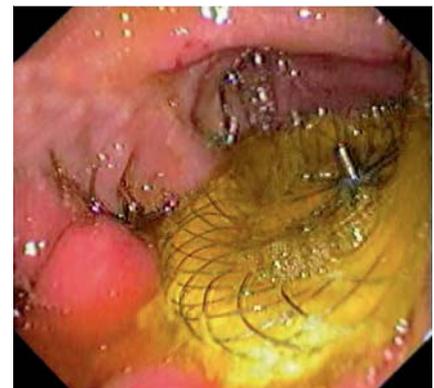


Fig. 4 Endoscopic appearance of the bile-stained Amplatzer device 1 week after placement.

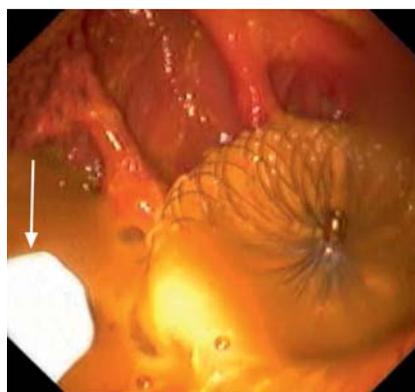


Fig. 3 Endoscopic view of the orifices of the two gastrojejunocolonic fistulas occluded by the Amplatzer device. The arrow is indicating the tip of the delivery catheter attached to the endoscope.

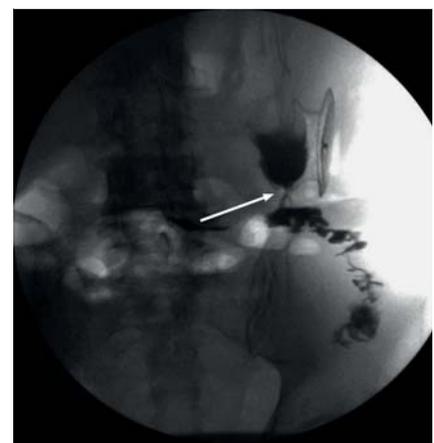


Fig. 5 Upper gastrointestinal study with Gastrografin 1 week after the placement of the Amplatzer device.

Video 1

Technique for endoscopic implantation of an Amplatzer device for the occlusion of a gastrocolonic fistula.

fistula and re-establishment of gastrojejunal and colonic continuity [2,4]. However, nonoperative medical management strategies have also been proposed [5]. This is the first case of implantation of an Amplatzer atrial septal defect closure device to occlude two gastrojejunocolonic fistulas with a novel delivery method in the complicated setting of a Billroth II reconstruction. This approach could be an alternative to surgical management in certain circumstances, especially in patients with a high operative risk.

Competing interests: None

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