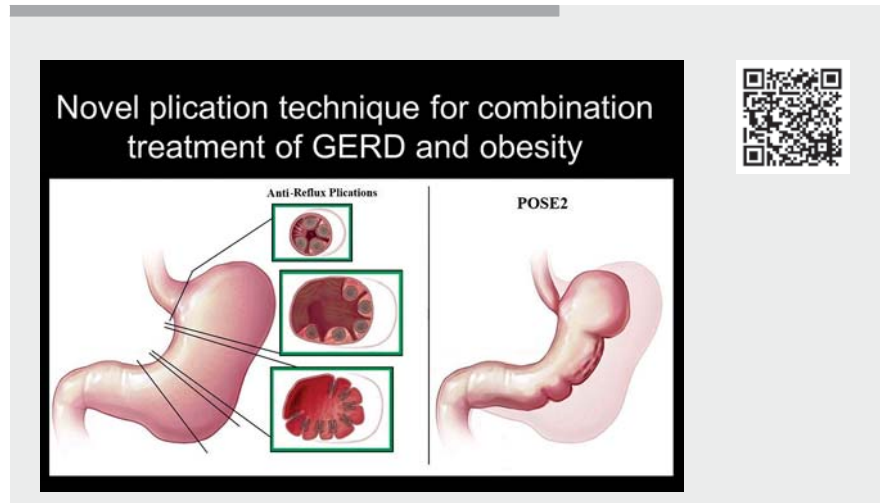
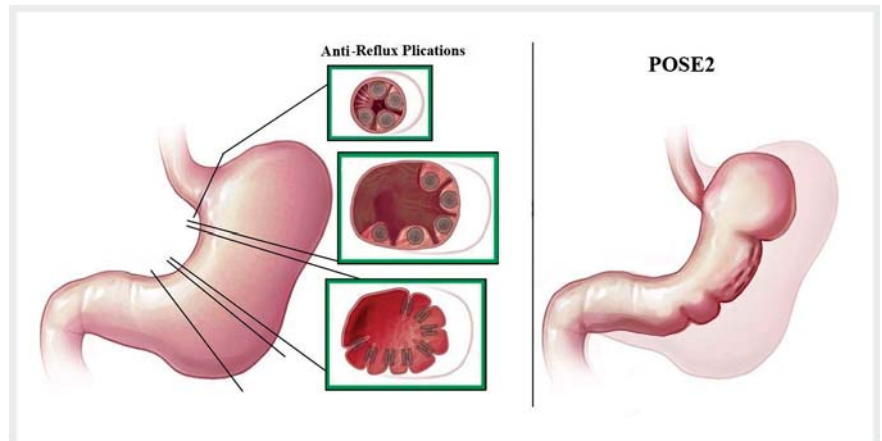


## Feasibility of a single endoscopic plication procedure for the treatment of gastroesophageal reflux disease and obesity

Gastroesophageal reflux disease (GERD) and obesity are common disorders in the developed world, often coinciding in the same patients [1]. Obesity exacerbates GERD and reduces the efficacy of anti-reflux surgery [2]. This creates management challenges for overlapping GERD and obesity, which compels the development of safe, effective, and durable therapies for patients with these conditions. The Incisionless Operating Platform (USGI Medical, San Clemente, California, USA) is a handheld endoscopic tool that acquires full-thickness gastric or gastroesophageal tissue using 3.3-cm jaws. The tissue is then pierced with a catheter needle to allow for the deployment of paired suture anchors, thereby creating a 6.6-cm full-thickness plication (►Video 1). The Incisionless Operating Platform may be operated in both the forward-facing and retroflexed orientation. This unique feature permits the endoscopic creation of plications that both facilitate weight loss (such as those used in the Primary Obesity Surgery Endoluminal gastric remodeling procedure), as well as plications at the gastroesophageal junction that may serve as a barrier against pathologic reflux (such as those used in transoral incisionless fundoplication) [3,4]. The Incisionless Operating Platform consequently provides the theoretical opportunity to co-treat obesity and GERD in the same patient during a single procedure (►Fig. 1). In this video, we describe the use of the platform to create gastric plications in the pattern of the Primary Obesity Surgery Endoluminal 2 procedure, which tubularizes the stomach along the greater curvature and shortens its aperture to facilitate weight loss in adults with obesity. We then describe the use of the Incisionless Operating Platform to create gastric and gastroesophageal plications to serve as a barrier against gastroesophageal reflux in a



►Video 1 Single endoscopic plication procedure for treatment of gastroesophageal reflux disease and obesity. Source for graphical illustration: Mayo Clinic. Source for IOP: USGI Medical.



►Fig. 1 Novel plication technique for combination treatment of gastroesophageal reflux disease and obesity. Source: Mayo Clinic.

large canine model. We conclude with the combination plication procedure in an ex-vivo porcine stomach, providing the conceptual framework for examining the combination procedure in humans.


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### Competing interests

KST: USGI Medical (consultant), Endogastric Solutions (consultant, speaker); GLN: Apollo Endosurgery (consultant), USGI Medical (consultant), Nitinotes (consultant); RT: USGI Medical (consultant); BKA: Boston Scientific (consultant), USGI (consultant, grant/research support), DyaMx (consultant), Metamodix (consultant), Olympus (speaker),

Medtronic (speaker, grant/research support), Johnson and Johnson (speaker), Endogastric solutions (speaker), Apollo Endosurgery (grant/research support), Cairn Diagnostics (grant/research support), Aspire (grant/research support), Spatz (grant/research support).

## The authors

**Daniel B. Maselli<sup>1</sup>, Rami Abusaleh<sup>1</sup> , Karim S. Trad<sup>2</sup>, Contrand Lopez-Nava<sup>3</sup>, Román Turró<sup>4</sup>, Barham K. Abu Dayyeh<sup>1</sup>**

- 1 Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota, USA
- 2 The George Washington University School of Medicine and Health Sciences, Washington, DC, USA
- 3 Bariatric Endoscopy Unit, Madrid Sanchinarro University Hospital, Madrid, Spain
- 4 Unidad de Endoscopia, Centro Médico Teknon, Barcelona, Spain

## Corresponding author

**Barham K. Abu Dayyeh, MD**

Division of Gastroenterology and Hepatology, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA  
 Fax: +1-507-284-0538  
 AbuDayyeh.Barham@mayo.edu

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