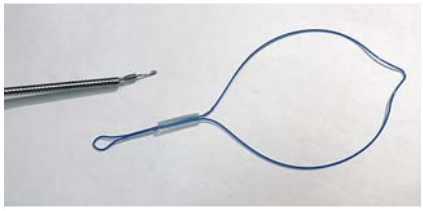
A novel endoloop pretest to treat severe gastroesophageal reflux disease symptoms before anti-reflux mucosectomy

A 44-year-old man with a 6-year history of gastroesophageal reflux disease (GERD; score of 30 on GERD questionnaire) underwent an upper gastrointestinal (GI) endoscopy, which revealed esophagitis (Los Angeles grade A). After failure of maximal medical therapy for GERD, the patient underwent a new minimally invasive, reversible endoscopic treatment, with the aim of predicting whether his symptoms could be alleviated, in order to ultimately decide whether to undergo irreversible surgery or endoscopic treatment.

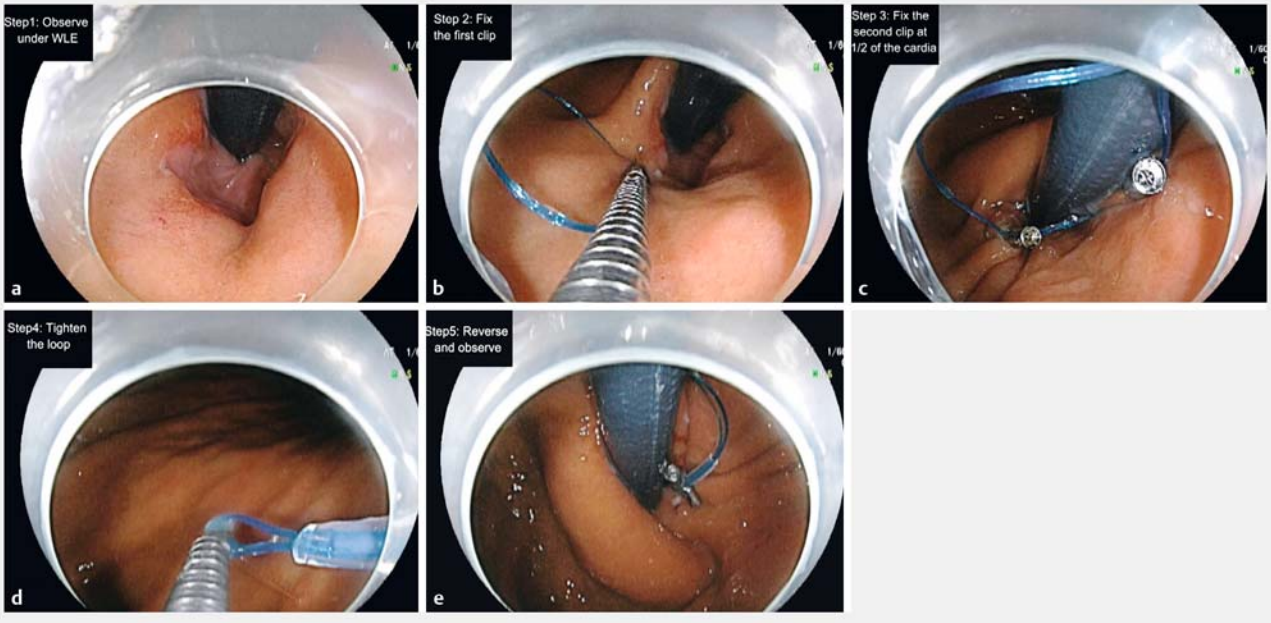


▶ **Fig. 1** The LeCamp endoloop.

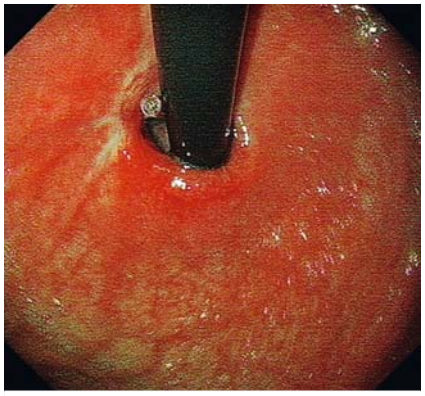
A novel LeCamp endoloop (Leo Medical, China) (▶ **Fig. 1**) was inserted into the gastric cardia using forceps passed through a single-channel endoscope (▶ **Fig. 2a**). After adjustment of the location and angle of the endoloop, it was anchored onto the edge of the gastric cardia with a clip (▶ **Fig. 2b**) and another one or two clips were inserted to hold the opposite side of endoloop about halfway round the circumference (▶ **Fig. 2c**). The hook was then connected with the endoloop (▶ **Fig. 2d**), which was tightened with a slight pulling together of all the clips (▶ **Fig. 2e**). The patient did not experience any pain and was safely discharged the same day.

After the treatment, the patient showed significant improvement in his symptoms with a score of 4 points on the GERD questionnaire and was able to discontinue daily use proton pump inhibitors. At 1-month follow-up, the patient complained that the symptoms were gradually re-appearing, repeat upper GI endoscopy revealed the endoloop and the clips had dropped off. After the patient had given his consent, anti-reflux mucosectomy (ARMS) was performed using standard endoscopic submucosal dissection [1]. At the 3-month follow-up, he reported significant reduction in GERD questionnaire scores and his upper GI endoscopy showed a tight gastroesophageal junction (▶ **Fig. 3**).

In this patient, we used a novel pretest to narrow the gastric cardia before he underwent ARMS, which suggests that this



▶ **Fig. 2** White-light endoscopy views showing: **a** the gastric cardia; **b** the endoloop being fixed with the first clip using forceps passed through a single-channel endoscope; **c** a second clip being applied halfway around the circumference of the cardia; **d** the hook being connected to tighten the endoloop; **e** the gastric cardia in retroflexed view after the endoloop has been fixed and tightened.



▶ **Fig. 3** Endoscopic appearance 3 months after undergoing anti-reflux mucosectomy showing a tight gastroesophageal junction.

Video 1 A novel endoloop pretest to treat severe gastroesophageal reflux disease symptoms before anti-reflux mucosectomy in a 44-year-old man.

new technique may be a simple and reversible method to control symptoms temporarily in GERD patients, while they decide whether to undergo irreversible surgery or endoscopic treatment.

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Competing interests

None

The authors

Min Min, Yan Liu
Department of Gastroenterology and Hepatology, Affiliated Hospital of Academy of Military Medical Sciences, Beijing, China

Corresponding author

Yan Liu, MD, PhD
Department of Gastroenterology and Hepatology, Affiliated Hospital of Academy of Military Medical Sciences, Beijing, 100071, China
Fax: +86-10-66947473
13911798288@163.com

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