Endoscopic treatment of recurrent sigmoid volvulus with colopexy assisted by T-fasteners and colostomy

T-fasteners have been used successfully for percutaneous endoscopic sigmoidopexy [1]; however, peritonitis may develop after percutaneous endoscopic sigmoidostomy [2]. We present a patient with recurrent sigmoid volvulus who was treated endoscopically by sigmoidopexy assisted by T-fasteners and sigmoidostomy.

A 95-year-old man was hospitalized five times between July 2013 and February 2015 because of recurrent sigmoid volvulus. Surgery was not an option owing to patient co-morbidity, so a combined endoscopic approach, involving colopexy and colostomy, was proposed.

Following bowel preparation, colonoscopy was carried out in the endoscopy suite with the patient in the supine position, under deep sedation and with antibiotic prophylaxis. The colon was insufflated with air. Abdominal wall transillumination at 28 cm from the anal margin allowed an appropriate colopexy site to be selected from the sigmoid colon. Externally, a 21-G needle was used to ensure the appropriate location and direction before placement of a T-fastener to fix the sigmoid colon to the abdominal wall. A total of four T-fasteners were placed in a square arrangement (Fig. 1, Video 1). A small incision was then made using a surgical blade, and a 19-G trocar needle and a guidewire were inserted into the colon. Progressive dilations were performed to create a stoma tract (Fig. 2). Finally, a 20-Fr gastrostomy tube was placed using the “push” technique (Fig. 3). A 2–3 mm colonic perforation was immediately seen (Fig. 4), and was closed using four clips and two endoloops (Fig. 5).

The patient was discharged from hospital 2 days later. After 17 days, the suture locks released spontaneously. The patient died 10 months later from pneumonia, without recurrence of volvulus.
We conclude that the combined endoscopic colopexy assisted by T-fasteners and colostomy has potential use in the prevention of recurrent sigmoid volvulus in patients at high surgical risk. In addition, early complications may be detected immediately and treated during the same procedure. More cases are needed to establish the utility and safety of this combined approach in this setting.

**Competing interests:** None

**Antonio López-Serrano, Christian A. Amurrio, Jaime Hervás, Patricia Latorre, Inmaculada Ortiz, Ana Polanco, Eduardo Moreno-Osset**

Department of Gastroenterology, Hospital Universitari Dr. Peset, University of Valencia, Valencia, Spain

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**Corresponding author**

Antonio López-Serrano, MD

Servicio de Medicina Digestiva

Hospital Universitari Dr. Peset

Av. Gaspar Aguilar, 90

46007 Valencia

Spain

Fax: +34-96-3862501

lopez_antser@gua.es

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**Fig. 5** The colonic perforation was closed using clips and endoloops. a Frontal view. b Retroversion view.