Obesity Surgery
https://doi.org/10.1007/s11695-022-06186-7

MULTIMEDIA ARTICLE

Multiple Endoscopic Therapies for Treatment of Chronic Post-bariatric Surgery Gastropleural Fistula

Alexandre Moraes Bestetti[1] · Mateus Bond Boghossian[1] · Bruno Salomão Hirsch[1] · Thomas R. McCarty[2] · Marco Aurélio Santo[3] · Eduardo Guimarães Hourneaux de Moura[1] · Diogo Turiani Hourneaux de Moura[1]

Received: 24 April 2022 / Revised: 23 June 2022 / Accepted: 24 June 2022

Keywords Post-bariatric fistula · Endoscopy · Bariatric complication

The development of a gastropleural fistula after laparoscopic sleeve gastrectomy (LSG) is a severe complication after bariatric surgery and may occur in 0.2 to 0.4% of cases. Revisional surgery is challenging and associated with higher rates of morbidity as compared to primary surgery [1]. As such, nowadays, alternative endoscopic approaches may be considered the first-line strategy [2]. Current endoscopic approaches for chronic fistulas are less effective compared to acute leaks with unsuccessful closure in up to 20% of patients, with multiple endoscopic procedures typically required, including therapy directed at fistula-related factors such as downstream sleeve stenosis [2–5]. In this video, we describe multiple endoscopic techniques to achieve successful closure of a chronic post-LSG gastropleural fistula.

A 40-year-old woman with class III obesity and history of LSG 6 months prior was referred to our institution for management of a gastropleural fistula. The patient had previously failed endoscopic clipping and presented with fever, tachycardia, hypotension, and dyspnea. Esophagogastroduodenoscopy (EGD) revealed a narrow sleeve body and residual fundus with a chronic fistulous tract. A contrast study confirmed a gastropleural fistula with associated sleeve stenosis. Sleeve dilation with a 30-mm achalasia balloon was subsequently performed followed by endoscopic internal drainage with placement of one double pigtail plastic stent. Despite clinical improvement, repeat computed tomography scan demonstrated a persistent left-sided pleural collection and a pleurostomy was performed. Due to external drainage and chronic fistula (epithelized tract), placement of a cardiac septal defect occluder (CSDO) was undertaken [2]. However, despite adequate positioning, a persistent leak around the CSDO was noted. Therefore, cyanoacrylate was injected into the proximal and distal flanges of the CSDO, as previous described [6], and a customized bariatric stent was placed to avoid continued leakage and treat the underlying sleeve stenosis. In the following weeks, cyanoacrylate was again injected in the CSDO through the pleurostomy weekly. Four weeks later, the bariatric stent was removed, revealing complete fistula closure. After the procedure, the patient started oral feeding, maintained clinical improvement, had antibiotics discontinued, and was discharged from the hospital 18 days later. In the 1-month follow-up, fistula's successful closure and the sleeve stenosis's resolution were confirmed by EGD.

In conclusion, the management of chronic post-bariatric surgery fistulas remains challenging, and typically requires multiple treatment strategies. Proper treatment and clinical success necessitate an individualized and multidisciplinary approach based upon patient and fistula characteristics (including size, location, duration, and patient clinical condition), device availability, and local experience.

Key Points
1.Leaks and fistulas are severe complications after bariatric surgery
2.Endoscopy should be the initial approach in stable patients
3.Chronic post-bariatric surgery fistulas usually require multiple endoscopic therapies.

✉ Alexandre Moraes Bestetti
bestetti.alexandre@gmail.com

[1] Gastroenterology Department, Gastrointestinal Endoscopy Unit, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Av. Dr Enéas de Carvalho Aguiar, 225, 6° Andar, Bloco 3, Cerqueira César, SP 05403-010 São Paulo, Brazil

[2] Division of Gastroenterology, Hepatology and Endoscopy, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

[3] Department of Digestive Surgery, Hospital das Clinicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, SP, Brazil

Published online: 28 June 2022

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11695-022-06186-7.

Declarations

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Conflict of Interest The authors declare no competing interests.

References

1. Sakran N, Zakeri R, Madhok B, et al. Gastric fistula in the chest after sleeve gastrectomy: a systematic review of diagnostic and treatment options. Obes Surg. 2021;31(1):357–69.
2. Baptista A, de Moura DTH, Jirapinyo P, et al. Efficacy of the cardiac septal occluder in the treatment of post-bariatric surgery leaks and fistulas. Gastrointest Endosc. 2019;89:671–9.
3. de Moura DTH, Boghossian MB, Hirsch BS, et al. Long-term endoscopic follow-up after closure of a post-bariatric surgery fistula with a cardiac septal defect occlude. Endoscopy. 2021. https://doi.org/10.1055/a-1540-5870.
4. Rogalski P, Swidnicka-Siergiejko A, Wasielica-Berger J, et al. Endoscopic management of leaks and fistulas after bariatric surgery: a systematic review and meta-analysis. Surg Endosc. 2021;35:1067–87.
5. de Moura DTH, Júnior JRF , de Souza GMV. et al. Endoscopic management of acute leak after sleeve gastrectomy: principles and techniques. Endoscopy 2021. https://doi.org/10.1055/a-1525-1661.
6. Melmed GY, Kar S, Geft I, et al. A new method for endoscopic closure of gastrocolonic fistula: novel application of a cardiac septal defect closure device (with video). Gastrointest Endosc. 2009;70(3):542–5.