




Endoscopic Management of Anchor Erosion Adjacent to the Pylorus Following Duodenal-jejunal Bypass Sleeve

Eduardo Guimarães Hourneaux De Moura¹ · Diogo Turiani Hourneaux de Moura^{1,2} · Manoel Galvão-Neto³ · Christiano Makoto Sakai¹ · Gustavo Luis Rodela Silva¹ · Ahmad Najdat Bazarbashi² · Christopher C. Thompson² 

© Springer Science+Business Media, LLC, part of Springer Nature 2019

Abstract

Introduction Obesity is a pandemic associated with significant comorbidities such as type 2 diabetes (T2DM). RYGB is an effective treatment modality for obesity and T2DM. However, bariatric surgery is currently limited to a relatively small population of patients. The duodenal-jejunal bypass sleeve (DJBS) has recently emerged as a promising therapy for obesity and T2DM by providing similar physiological effects to RYGB. We describe a case of a patient with a previously placed DJBS presenting with abdominal pain from anchor erosion managed with an endoscopic approach.

Methods A 58-year-old man with obesity and T2DM who had failed prior medical therapy for obesity was referred for DJBS placement. This was placed without complications. At 8 weeks follow-up, he developed abdominal pain and vomiting prompting immediate endoscopic evaluation.

Results EGD revealed an anchor erosion resulting in mild stenosis of the pylorus. Additionally, hyperplastic tissue was found to be adhered to the device in the duodenal bulb. Endoscopic removal with balloon dilation was unsuccessful, and a stent was placed in a “stent-in-stent” fashion through the sleeve to compress the area of tissue ingrowth encouraging local tissue necrosis and device extraction. At 15 days follow-up, the stent was removed; however, the DJBS remained adhered and immobile. Next, the ingrowing hyperplastic tissue was resected in a piecemeal fashion. This resulted in mobilization of the sleeve anchors in the duodenal bulb and successful removal of the DJBS.

Conclusions DJBS endoscopic removal is safe and effective even in challenging cases, thus preventing the need for surgical intervention.

Keywords Obesity · Bariatric surgery · Diabetes · Endoscopy · Bypass · Endobarrier

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s11695-019-03855-y>) contains supplementary material, which is available to authorized users.

✉ Christopher C. Thompson
cthompson@hms.harvard.edu

Eduardo Guimarães Hourneaux De Moura
eduardoghdemoura@gmail.com

Diogo Turiani Hourneaux de Moura
dthmoura@hotmail.com; dmoura1@bwh.harvard.edu

Manoel Galvão-Neto
galvaon@gmail.com

Christiano Makoto Sakai
chris_ms@hotmail.com

Gustavo Luis Rodela Silva
gustavoluisrodela@gmail.com

Ahmad Najdat Bazarbashi
abazarbashi@bwh.harvard.edu

¹ Gastrointestinal Endoscopy Unit, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo – HC/FMUSP, São Paulo, SP, Brazil

² Division of Gastroenterology, Hepatology and Endoscopy, Brigham and Women’s Hospital, Harvard Medical School, 75 Francis St., Thorn 1404, Boston, MA 02115, USA

³ Florida International University, Miami, FL, USA

Introduction

Obesity is a pandemic associated with significant comorbidities such as type 2 diabetes (T2DM). Behavior modification and medications remain the mainstay of therapy however carry poorly sustained outcomes. Roux-en-Y gastric bypass has been established as an effective treatment modality for obesity and T2DM, with remission rates exceeding 75% [1]. However, bariatric surgery is currently limited to a relatively small population of patients. The duodenal-jejunal bypass sleeve (DJBS) (Endobarrier® Gastrointestinal Linear, GI Dynamics, Boston, MA, USA) has recently emerged as a promising therapy for obesity and T2DM by providing similar physiological effects to RYGB. Despite its efficacy, little is known about its potential adverse events, and more importantly methods to rectify these. We herein describe a case of a patient with a previously placed DJBS presenting with abdominal pain from anchor erosion managed with an endoscopic approach.

Material and Methods

A 58-year-old man with T2DM (HbA1c 6.8%) and a BMI of 32.4 kg/m² who did not respond to medical therapy for obesity was referred for DJBS placement. This was placed without complications. At 8 weeks follow-up, he had improvement in HbA1c levels and reduction in BMI to 29.7 kg/m². However, he subsequently developed abdominal pain, postprandial fullness, and vomiting prompting immediate endoscopic evaluation.

Results

EGD revealed an anchor erosion resulting in mild stenosis of the pylorus. Additionally, hyperplastic tissue was found to be adhered to the device in the duodenal bulb resulting in fusion of the sleeve with the underlying mucosa. Endoscopic removal with balloon dilation was unsuccessful, likely due to the sleeve being anchored into the duodenal bulb. To overcome

this, a fully covered self-expandable metallic stent was placed in a “stent-in-stent” fashion through the sleeve to compress the area of tissue ingrowth encouraging local tissue necrosis and device extraction. At 15 days follow-up, the stent was removed; however, the DJBS remained adhered and immobile. Next, the ingrowing hyperplastic tissue was resected in a piecemeal fashion. This resulted in mobilization of the sleeve anchors in the duodenal bulb and successful removal of the DJBS.

Conclusion

DJBL is effective in the treatment of obesity and T2DM, however may be associated with anchor erosion in rare cases. Endoscopic removal is safe and effective even in challenging cases thus preventing the need for surgical intervention.

Compliance with Ethical Standards

Conflict of Interest Eduardo Guimarães Hourneaux de Moura is a consultant for Boston Scientific and Olympus. Manoel Galvão-Neto reports fee as a consultant and proctor for Fractyl Labs, GI Dynamics, Apollo Endosurgery, GI Windows, and NitiNotes. Christopher C. Thompson reports fee as a consultant for Boston Scientific, USGI Medical, Olympus, Fractyl Labs, and Apollo Endosurgery. All other authors declare that they have no conflict of interest.

Ethical Approval Institutional Review Board of the Hospital approved the study. A consent was signed by the patient before the procedure.

Reference

1. Yan Y, Sha Y, Yao G, et al. Roux-en-Y gastric bypass versus medical treatment for type 2 diabetes mellitus in obese patients: a systematic review and meta-analysis of randomized controlled trials. *Medicine* (Baltimore). 2016 Apr;95(17):e3462.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.