

Wallflex Stent Targeting for the Placement of Retrograde Jejunostomy in a Patient with Intrathoracic Stomach and Organoaxial Gastric Rotation

A 72-year-old female with recurrent maxillofacial squamous cell carcinoma status postchemoradiation and numerous reconstructive surgeries presented with severe trismus and request for permanent enteral access. Cross-sectional imaging revealed an entirely intrathoracic stomach [Figure 1] with organoaxial gastric rotation. It was decided that a primary jejunostomy tube was the best option; however, the patient was not a surgical candidate. Other techniques such as small bowel enteroscopy have been previously reported but would have been difficult in this case due to the gastric position.^[1]

After significant difficulty, a 5 French, 125 cm catheter (Terumo Medical; Tokyo, Japan) and ultimately an Amplatz Super Stiff wire (Boston Scientific; Marlborough, MA) were advanced transnasally into small bowel. There was a significant loop within the pylorus due to volvulus [Figure 2]. Initially, the plan was to place a transnasal snare into a superficial small bowel loop and use this for targeting,^[2] however, there was no snare long enough available.

A 12 F, 70 cm sheath (Cook Medical; Bloomington, IN) and 10 F, 46 mm × 140 cm Coda balloon (Cook Medical)

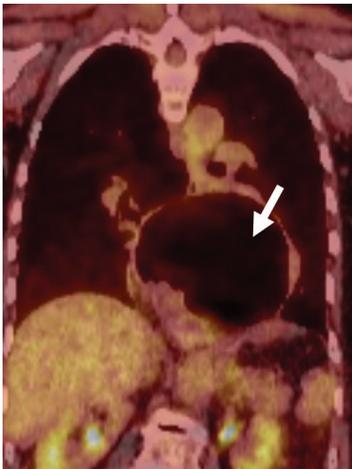


Figure 1: Coronal image from a positron emission tomography-computed tomography scan demonstrating an intrathoracic stomach with a large hiatal hernia (white arrow). Some rotational obstructive volvulus component was also observed, not pictured

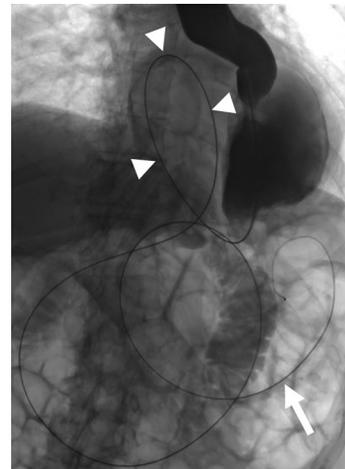


Figure 2: An Amplatz wire is seen coursing from a transnasal approach through the patient's large hiatal hernia and ultimately into the proximal jejunum (white arrow). The wire can be seen looping near the pylorus (white arrowheads) concerning for a gastric volvulus

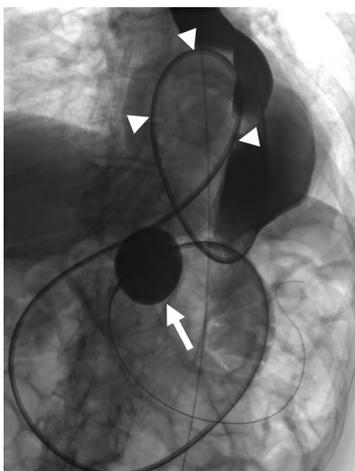


Figure 3: A 10 Fr, 46 mm × 140 cm Coda balloon (Cook Medical) was advanced and subsequently inflated within the proximal jejunum (white arrow) to assist with reduction of the loop (white arrowheads) within the pylorus

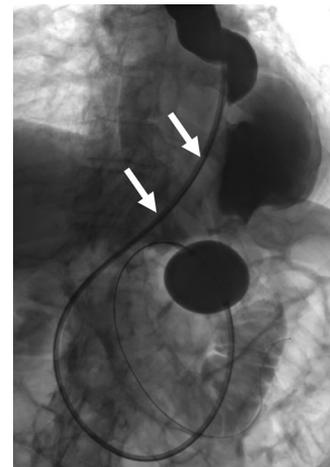


Figure 4: After the balloon was inflated, the Coda balloon catheter was slowly retracted until the loop reduced [Video 1], and there was a straight path from the intrathoracic stomach into the duodenum (white arrows). The inflated balloon served to anchor the catheter and wire in place while the loop was reduced

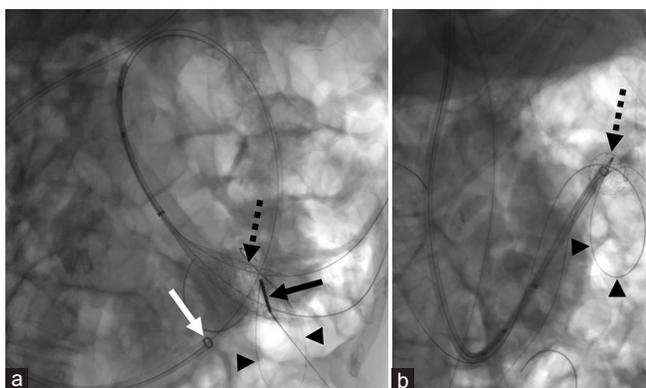


Figure 5: (a) A 12 French \times 70 cm sheath was placed transnasally into the small bowel (solid white arrow). Subsequently, a 22 mm \times 90 mm, 270 cm length delivery system WallFlex Duodenal Stent (Boston Scientific) was partially deployed (dashed black arrow) within the proximal jejunum in a bowel loop that was noted to be superficial just under the abdominal wall on multiplanar fluoroscopy. An 18-gauge Chiba needle was then percutaneously advanced into the partially deployed stent (solid black arrow). A 450 cm Jagwire (Boston Scientific) was then advanced through the needle traversing through both walls of the stent (black arrowheads). The needle was then removed. (b) The stent was then reconstrained (dashed black arrow), thereby capturing the wire. It was then retracted into the sheath and then removed from the nares, obtaining through-and-through wire access from the jejunum to the nares [Video 2]

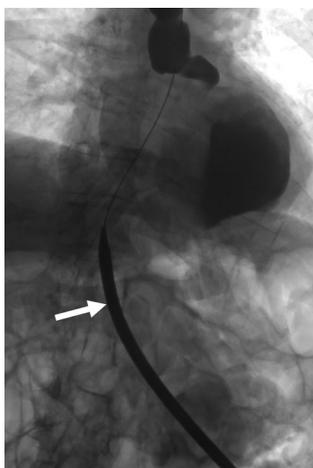


Figure 7: After through-and-through wire access was obtained, a 5 French catheter was passed percutaneously from the jejunal access site out the nose, and the wire was exchanged for an Amplatz Super Stiff wire (Boston Scientific) for subsequent tract dilation (white arrow) and ultimately placement of a 20 French Peel-Away Sheath (Cook Medical). Note is made that the through-and-through wire straightens out the bowel loops, thereby making dilation relatively easy

were placed into the small bowel. The balloon was inflated in the proximal jejunum [Figure 3] to serve as an anchor for subsequent reduction of the gastric loop [Figure 4 and Video 1]. As no snare longer than 175 cm existed, an endoscopic 22 mm \times 90 cm WallFlex Duodenal stent (Boston Scientific) with 270 cm delivery system was chosen to use for jejunal targeting. It was partially deployed in a superficial small bowel loop, confirmed by multiplanar fluoroscopy, punctured percutaneously, and a 450 cm Jagwire (Boston Scientific) was placed through it. The stent was recaptured along with the wire,

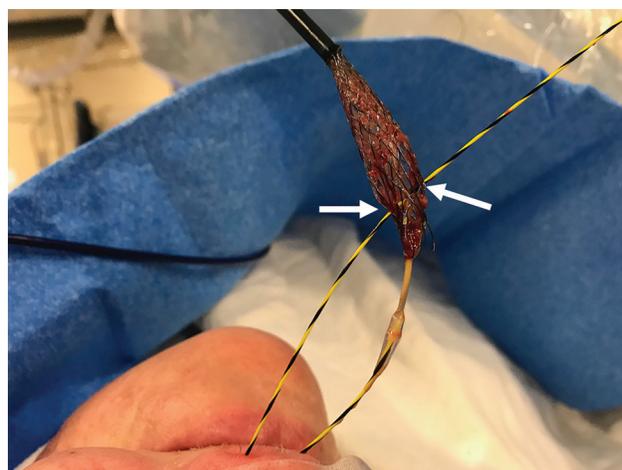


Figure 6: The Jagwire (Boston Scientific) can be seen traversing both walls of the stent (white arrows) after being partially redeployed outside of the patient. The wire can be seen exiting the patient's left nares

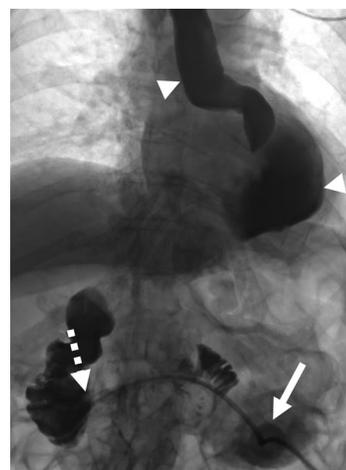


Figure 8: A 16 French MIC jejunostomy tube is seen with the balloon inflated (white arrow) within the jejunum. The tube courses retrograde with the tip in the duodenum (dashed white arrow). Note is made of retained contrast within a large hiatal hernia and the distal esophagus (white arrowheads)

resheathed, and retracted from the nares, thereby obtaining through-and-through wire access [Figures 5, 6 and Video 2]. Tract dilation was performed, and a 20 French Peel-Away Sheath Introducer (Cook Medical) was placed. A 16 French MIC jejunostomy tube (Halyard Health; Alpharetta, GA) was placed [Figures 7 and 8]. The patient had an uneventful clinical course and began feeds on postoperative day 1. She remains stable with no issues 4 weeks after the procedure.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

**Ravi N. Srinivasa, Nishant Patel,
James J. Shields, Joseph J. Gemmete,
Jeffrey Forris Beecham Chick**

*Department of Radiology, Division of Vascular and Interventional
Radiology, University of Michigan Health Systems, Ann Arbor,
Michigan, USA*

*Address for correspondence:
Dr. Ravi N. Srinivasa,*

*Department of Radiology, Division of Vascular and Interventional
Radiology, University of Michigan Health System, 1500 East Medical
Center Drive, Ann Arbor, MI 48109, USA.
E-mail: rnsriniv@med.umich.edu*

References

1. Shetzline MA, Suhocki PV, Workman MJ. Direct percutaneous endoscopic jejunostomy with small bowel enteroscopy and fluoroscopy. *Gastrointest Endosc* 2001;53:633-8.

2. Srinivasa RN, Chick JFB, Hage AN, Shields JJ, Saad WE, Majdalany BS, *et al.* Transnasal snare technique for retrograde primary jejunostomy placement after surgical gastrojejunostomy. *Cardiovasc Intervent Radiol* 2017;40:1940-4.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Videos available on: www.arabjir.com

Access this article online

Quick Response Code:



Website:

www.arabjir.com

DOI:

10.4103/AJIR.AJIR_24_17

How to cite this article: Srinivasa RN, Patel N, Shields JJ, Gemmete JJ, Chick JF. WallFlex stent targeting for the placement of retrograde jejunostomy in a patient with intrathoracic stomach and organoaxial gastric rotation. *Arab J Intervent Radiol* 2018;2:38-40.