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Commentary: Treatment of "candy cane" syndrome: Not necessarily a straight path

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CENTRAL MESSAGE

Functional obstruction of a herniated Roux-en-Y esophagojejunostomy requires careful attention for accurate diagnosis and can be successfully repaired via thoracoscopy.

Herniation of a Roux-en-Y gastro- or esophagojejunostomy can present as "candy cane" syndrome, named for the radiographic appearance of the dilated afferent Roux limb. Risk factors include excessive length of the blind limb,[1] which may preferentially collect food as the path of least resistance. Presentation ranges from nonspecific abdominal discomfort to acute pain with nausea and vomiting. Although rare and infrequently described, most cases are repaired transabdominally. The length of redundant bowel varies as much as 3 to 22 cm, and resection often results in prompt resolution of symptoms.[2,3]

The authors here present an interesting case report of a patient referred for failed attempted laparoscopic hiatal hernia repair.[4] Although she did not present emergently, her clinical picture was significant for obstructive symptoms and associated weight loss, as well as a classically shaped contrast esophagram. A successful thoracoscopic excision of the redundant limb is described followed by successful enteral intake and recovery.

The report brings attention to 2 important lessons—first, the need for a high level of suspicion to appropriately diagnose this rare condition. In this particular case, previous surgeons had failed to recognize the role of a redundant blind afferent loop as the underlying pathology. Unfamiliarity with the "candy cane" syndrome may easily lead the unwary surgeon to an incorrect diagnosis of obstructed hiatal hernia, afferent loop syndrome, or other mechanical problem. Accordingly, focusing on repair of a hernia would be unlikely to adequately resolve the symptoms of a true functional obstruction.

Second, the authors demonstrated a sensible and effective transthoracic repair for an appropriate patient. Although the typical approach is transabdominal, this is clearly not the only surgical option. Thoracoscopy or thoracotomy should be carefully considered by the bariatric or thoracic surgeon faced with this problem.

Recognition of this syndrome is important to avoid misdiagnosis, delayed treatment, and inappropriate intervention. A high level of suspicion is prudent in patients presenting with chronic obstructive type symptoms after Roux-en-Y gastric bypass surgery. Reoperation is common in these bariatric patients due to complications or need for revision, and a transthoracic approach to address "candy cane" syndrome may be preferential to avoid extensive intraabdominal adhesions. The prepared surgeon will be better equipped to promptly diagnose and treat this complication.

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References

1. Khan K, Rodriguez R, Saeed S, Persaud A, Ahmed L. A case series of candy cane limb syndrome after laparoscopic Roux-en-Y gastric bypass. *J Surg Case Rep*. 2018;2018:rjy244.
2. Dallal RM, Cottam D. "Candy cane" Roux syndrome—a possible complication after gastric bypass surgery. *Surg Obes Relat Dis*. 2007;3:408-10.

3. Aryaie AH, Fayezizadeh M, Wen Y, Alshehri M, Abbas M, Khaitan L. "Candy cane syndrome": an underappreciated cause of abdominal pain and nausea after Roux-en-Y gastric bypass surgery. *Surg Obes Relat Dis*. 2017;13:1501-5.

4. Cobb TA, Banki F. Thoracoscopic revision of a herniated Roux-en-Y esophagojejunostomy for treatment of "candy cane syndrome." *J Thorac Cardiovasc Surg Tech*. 2020;2:153-5.