

Gastric Outlet Obstruction Secondary to Massive Parastomal Hernia Managed with Staged Reduction and Definitive Abdominal Wall Reconstruction

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Video link: <https://youtu.be/ZJODYrQDmeI>

A 66-year-old gentleman presented to a peripheral hospital with early satiety, severe reflux, vomiting, and obstipation. His history was notable for open abdominoperineal resection with end colostomy, followed by adjuvant chemotherapy and radiation, for T4N0 rectal cancer >20 years ago. Since his operation, he had developed a progressively enlarging parastomal hernia. His other comorbidities included type II diabetes mellitus, hypertension, bilateral nephrolithiasis with significant stone burden, benign prostatic hyperplasia, and pedal edema.

CT imaging on presentation demonstrated a loss of domain parastomal hernia (EHS M3-M4 20 x 20 cm) containing the majority of the small bowel, colon, as well as a markedly distended stomach which was pulled into the hernia causing a gastric obstruction. An upper endoscopy was attempted at the community hospital but was aborted due to significant gastric distension and retained gastric contents. He was managed conservatively with nasogastric decompression without success and transferred to a tertiary centre for further surgical management.

Given his acute presentation with gastric obstruction in the setting of a massive parastomal hernia, a staged surgical approach was pursued. The priority during this admission was to relieve the gastric obstruction, exclude intrinsic pathology, and allow interval optimization prior to definitive abdominal wall reconstruction. He underwent a diagnostic laparoscopy, which re-demonstrated a massive parastomal hernia containing omentum, transverse colon, and small bowel, with a markedly dilated stomach and antrum that was pulled into the hernia. The greater curvature attachments to the omentum and colon were divided, allowing the stomach to be mobilized out of the hernia and straightened into its natural position. Intra-operative endoscopy demonstrated a normal pylorus and duodenum, with no evidence of mechanical obstruction or malignancy. He recovered without complication, tolerated gradual diet advancement, and was discharged home thereafter.

Prior to definitive hernia repair, attention was directed toward medical and nutritional optimization. Given his weight loss in the weeks leading up to his obstructive presentation, the interval allowed time to ensure adequate recovery and nutritional readiness before major abdominal wall reconstruction. He also had obstructive nephrolithiasis evaluated and managed by urology prior to his hernia repair. His creatinine remained normal and was not felt to preclude surgery. He was also assessed in clinic for operative planning and found to have adequate abdominal domain without requiring additional pre-operative optimization, such as botulinum toxin. Given the planned stoma re-siting, pre-operative stoma marking and teaching were arranged. Following his interval optimization, he was brought to the operating room for

Commented [BF1]: Mention the EHS classification here (M3W2/3?, "x" cm wide defect).

definitive repair 2 months later. He underwent open Pauli parastomal hernia repair with bilateral transversus abdominis release, extensive adhesiolysis, colostomy takedown with segmental resection, stoma re-siting, and vertical panniculectomy. The procedure was well tolerated by the patient without any complications. The acute pain service was involved for post-operative pain management. His post-operative recovery was uncomplicated, and he was discharged home on post-operative day five.

Discussion points

The surgical approach was guided by three key considerations:

1. The acute obstructive presentation required prompt gastric decompression and mobilization, but definitive abdominal wall reconstruction was best avoided in the setting of an acute presentation, prolonged obstruction, and nutritional compromise.
2. Intra-operative endoscopy was used to confirm that the obstruction was secondary to extrinsic gastric tethering rather than intrinsic pyloric, duodenal, or malignant pathology, particularly given his prior rectal cancer history.
3. Interval repair allowed for medical and nutritional optimization, assessment of abdominal domain, pre-operative stoma planning, and shared decision-making regarding the timing of definitive reconstruction.

Importance of case

Our case highlights the management of a rare and complex presentation of parastomal hernia, in which gastric herniation and tethering resulted in gastric outlet obstruction. It demonstrates the value of a staged approach: first relieving the acute obstruction and excluding intrinsic pathology, followed by a period of medical, nutritional, and operative optimization before definitive abdominal wall reconstruction. This exemplifies how in carefully selected patients, a staged strategy can be safely initiated by acute care surgeons and result in excellent postoperative outcomes durable repair, and high patient satisfaction without compromising length of stay and time to definitive repair.