Omental patch reconstruction for pyloric perforating in a patient with chronic ventral hernia and loss of domain

Adham Ahmed BS[1], Tara Ranjbar MD[2,3], Katerina Jou[2,4], Samantha Colon BS[1], Audrey Heldreth MD[2,3], Indraneil Mukherjee[2,3]

[1] City University of New York School of Medicine, [2] Northwell, New Hyde Park, [3] Staten Island University Hospital, [4] North Shore University Hospital

OBJECTIVES

- To discuss the surgical challenges and considerations in managing ventral hernias with Loss of Domain (LOD)
- To present a case study of an elderly patient with chronic ventral hernia and LOD who developed an acute abdominal ca
- To highlight the importance of multimodal surgical management, including intraoperative re-evaluation, tailored abdominal wall closure techniques, and negative pressure wound therapy (NPWT).

METHODS

- A 71-year-old female with a significant surgical history, including a failed previous hernia repair presented to a local hospital with worsening abdominal pain that had progressively intensified over three weeks.
- The patient was stable but CT imaging demonstrated a massive ventral hernia with loss of domain, containing portion of the left liver, stomach, small bowel, and colon, along with ascites, and a large volume of intraperitoneal air.
- Exploratory laparotomy displayed several adhesion bands, a significant amount of purulent fluid in the upper abdomen, and a partially healed, small (<1cm) perforation just proximal to the pylorus.
- The perforation was repaired using an omental patch, and a hybrid approach was used to close the abdominal cavity, which consisted of partial primary fascial closure for the small portion of the defect, dermal closure of the remaining wound, and internal absorbable retention sutures to provide additional support.
- An Incisional NPWT Dressing was applied postoperatively to reduce the risk of dehiscence.

FIGURE 1.

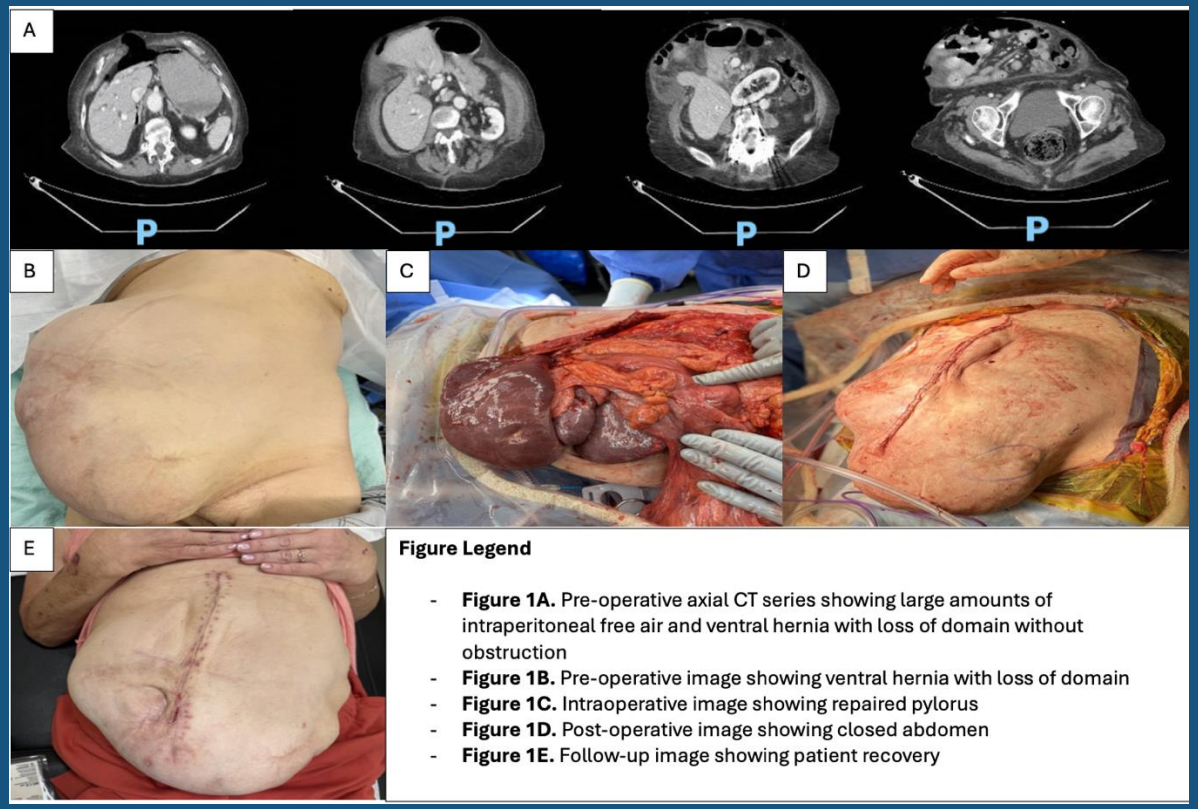


Figure Legend

- **Figure 1A.** Pre-operative axial CT series showing large amounts of intraperitoneal free air and ventral hernia with loss of domain without obstruction
- **Figure 1B.** Pre-operative image showing ventral hernia with loss of domain
- **Figure 1C.** Intraoperative image showing repaired pylorus
- **Figure 1D.** Post-operative image showing closed abdomen
- **Figure 1E.** Follow-up image showing patient recovery

RESULTS

- The patient had an uneventful early postoperative course with no signs of anastomotic leak or peritonitis recurrence
- On postoperative day 4, the surgical drain was removed due to no evidence of ongoing leak.
- On postoperative day 5, the patient was discharged home in stable condition, tolerating an oral diet and ambulating without difficulty.
- She has since completely recovered and is currently undergoing further evaluation for a planned definitive hernia repair once optimal surgical conditions are met.

CONCLUSION

- Managing ventral hernias with LOD in the context of acute intra-abdominal emergency is highly complex and requires a multidisciplinary, adaptive approach.
- This case emphasizes the importance of careful intraoperative reassessment to detect subtle pathology, as initial inspection did not reveal the gastric perforation.
- Multimodal strategies for abdominal closure are critical for optimizing outcomes in patients with large, chronic hernias where primary fascial closure is not feasible.
- We advocate for individualized, resource-maximizing strategies when managing these complex patients, integrating surgical decision-making, advanced wound care techniques, and collaborative perioperative planning.