A Unique Case on Endoluminal Vacuum Therapy for Salvage of Large Esophagojejunal Anastomotic Dehiscence

SCHOOL OF MEDICINE
DEPARTMENT OF SURGERY

Matthew Smallwood BS[1] , Roxann Lerma MD[2], Jay Zhu MD[2]
Department of General Surgery, University of New Mexico Hospital, Albuquerque, NM

INTRODUCTION

Total gastrectomy for gastric volvulus is rare and associated with high morbidity and mortality. However, surgical correction of these defects is often challenging and carries a high risk of complications. **Endoluminal vacuum therapy (EVT)** has emerged as a promising, minimally invasive alternative for select cases, facilitating controlled anastomotic healing while **reducing the need for reoperation.**

CASE PRESENTATION

A 56-year-old male with a history of hypertension and gastroesophageal reflux disease presented with severe abdominal pain, nausea, and emesis.

Imaging revealed a large paraoesophageal hernia with acute ischemic gastric volvulus (*Figure 1A*). Due to gastric necrosis, an emergent laparotomy with **total gastrectomy was performed and later underwent Roux-en-Y esophagojejunostomy** with a jejunostomy feeding tube for enteral nutrition.

Three weeks postoperatively, he was discharged to a long-term care facility but readmitted with sepsis, tachycardia, and leukocytosis.

A **CT scan demonstrated a complex 15x10 cm intraabdominal and mediastinal abscess** (*Figure 1B*), suggesting an esophagojejunal (EJ) anastomotic leak.

Interventional radiology placed a percutaneous transabdominal mediastinal drain. EGD confirmed **partial dehiscence involving 50% of the left lateral anastomotic circumference.**

Endoluminal vacuum therapy (EVT) was initiated with a granulofoam sponge sutured to a 12 Fr NG tube, advanced endoscopically to occlude the dehiscence. The patient **underwent biweekly EVT sponge exchanges with gradual reduction in cavity size.** Over time, granulation tissue formed, allowing incremental closure of the defect.

Finally, **after 15 weeks of EVT, interval EGD and CT scans showed progressive resolution of the mediastinal abscess** and closure of the EJ dehiscence, leaving a 3x3 cm chronic mediastinal cavity (*Figure 1C*). The patient was transitioned to a post-gastrectomy diet and was discharged 140 days after initial presentation. Now 2.5 years post-hospitalization, this patient has returned to work as a contractor, is tolerating a diet without issue, and exhibiting no complications following his EVT salvage therapy. His sustained recovery underscores the exceptional long-term follow-up that makes this case truly unique.

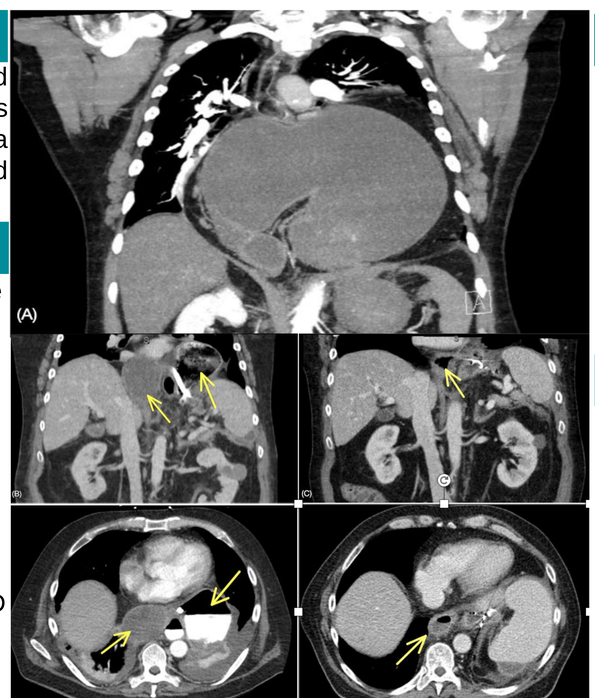


Figure 1: CT at initial presentation (A), initial dehiscence and leak (B), final resolution (C).



Figure 2: The anastomotic dehiscence viewed on upper endoscopy (left, yellow arrows). Endoscope driven across dehiscence into a large 15×10 cm cavity with drain in view (right)

Discussion

Postoperative esophageal anastomotic leaks are potentially fatal if not treated promptly, with mortality rates of 7.4% when managed within 24 hours, rising to 20.3% if treatment is delayed. Esophageal anastomotic leaks occur in 0-35% of esophagectomy cases and 2.7-12.3% of total gastrectomy cases.

This case highlights the **successful application of EVT for the salvage of a large EJ anastomotic dehiscence** in a septic and malnourished patient following total gastrectomy for ischemic gastric volvulus. **EVT offers a promising, minimally invasive option for managing esophageal leaks and reducing morbidity in high-risk patients.**

Conclusion

- This case represents **the one of the largest thoracoabdominal abscesses successfully managed with EVT, underscoring its efficacy as a salvage therapy for large anastomotic dehiscence's in critically ill patients.**
- EVT not only facilitated closure of the leak but also **allowed for continued nutritional optimization and infection control without requiring reoperation in a chronically inflamed field for a malnourished and deconditioned patient**
- This case also illustrates the **importance of patient selection,** as successful EVT outcomes depend on a combination of anatomic, hemodynamic, and nutritional factors. Additionally, comparing EVT with other nonoperative strategies, such as stent placement or fibrin sealants, may provide further insights into **refining the management of esophageal anastomotic leaks**.
- This intervention serves as a **true last-resort salvage therapy** for patients with no viable surgical options due to critical illness, malnutrition, and delayed diagnosis leading to severe chronic inflammation. A key limitation, however, was the prolonged hospitalization required for this treatment—**an intensive use of resources for a single patient**, despite the remarkable outcome.
- As EVT continues to evolve, its i**ntegration into treatment algorithms** for complex gastroesophageal leaks and injuries may significantly impact the management of anastomotic leaks across multiple surgical disciplines.

Acknowledgments

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