ACCELERATED RECOVERY AFTER XI ROBOTIC HARTMANN'S FOR PERFORATED DIVERTICULITIS: A CASE REPORT

William C. Baumgartner, DO; Fielding M. Richards, DO; Robert Carman, Jr. DO

UPMC LIFE CHANGING MEDICINE

INTRODUCTION

- Hartmann's procedure for perforated diverticulitis has traditionally been associated with prolonged recovery and morbidity when performed via open surgery. Minimally invasive approaches have demonstrated benefits including decreased postoperative pain and shorter hospital length of stay. Robotic platforms may further enhance pelvic visualization and precision during dissection.
- This case demonstrates rapid postoperative recovery following robotic Hartmann's procedure for Hinchey III perforated diverticulitis.

CASE DESCRIPTION

- 53-year-old male with diabetes, hypertension, hyperlipidemia, thyroid disease, hemochromatosis, and obesity presented with two days of abdominal pain, nausea, vomiting, and tachycardia.
- CT demonstrated sigmoid diverticulitis with perforation, free air, and intra-abdominal abscess.
- The patient underwent da Vinci Xi robotic Hartmann's procedure with drainage of abscesses.

Lab Values	
WBC	7.7 x 10^9/L
Hemoglobin	10.4 g/dL
Creatinine	1.86 mg/dL
Lactate	1.8 mmol/L

Fig. 1: Large abscess with free intraperitoneal area tracking up from the sigmoid colon.

OPERATIVE TECHNIQUE

- Intraoperative findings revealed purulent peritonitis consistent with Hinchey III diverticulitis.
- Key operative steps:
  - Robotic adhesiolysis
  - Lateral-to-medial mobilization of sigmoid colon
  - Mesenteric vessel ligation
  - Rectal division with stapler
  - Pfannenstiel specimen extraction
  - End colostomy maturation
  - Two intra-abdominal drains placed
  - ICG perfusion assessment confirming well-vascularized bowel
- Operative time: 161 minutes
- Estimated blood loss: 25 mL
- No intraoperative complications

RESULTS

- Intraoperative findings revealed purulent peritonitis consistent with Hinchey III diverticulitis.
- Postopertive Recovery Timeline:
  - POD1 – Ambulation, Foley removed, pain controlled with multimodal theory
  - POD2 – Clear liquids started, WBC normalized
  - POD3 – Full liquids, renal function normalized (Cr 0.80)
  - POD4 – Regular diet, flatus via ostomy
  - POD5 – Stool via ostomy, discharged home
- Three months later the patient underwent elective colostomy reversal and was discharged postoperative day two.

DISCUSSION

- This case highlights the feasibility of robotic Hartmann's procedure in perforated diverticulitis with accelerated recovery.
- Historical series report median hospital length of stay of approximately 12 days following open Hartmann's procedures. Minimally invasive approaches demonstrate shorter length of stay and improved postoperative recovery.
- Recent datasets show robotic colectomy outcomes comparable to laparoscopy with lower conversion rates and decreased ICU utilization, though operative time may be longer.

CONCLUSION

- Robotic Hartmann's procedure provided effective source control for Hinchey III diverticulitis and facilitated accelerated recovery with discharge on postoperative day five.
- Further prospective studies are needed to better define the role of robotic platforms in emergent colorectal surgery.

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DISCLOSURE

The authors used OpenAI ChatGPT (GPT-5 Thinking; accessed September 2025) to assist with wording, organization, and preliminary drafting of the abstract and case report. The tool also helped surface candidate literature; all citations and statements were independently verified by the authors. No figures or analyses were generated by AI. All patient details in the submission are de-identified. The authors retain full responsibility for the content and conclusions, and no AI system is credited as an author.