

# SCREEN BEFORE THE SCENE: HYPERCOAGULABILITY AND BOWEL PRESERVATION

## INTRODUCTION

- Hypercoagulability is a known but often underrecognized risk factor for catastrophic mesenteric ischemia.
- Anastomotic leak is the most feared complication after colorectal surgery, but alternative causes of postoperative sepsis must be considered.
- We present a case of diffuse embolic bowel necrosis following an elective ostomy reversal, highlighting the importance of preoperative hypercoagulability evaluation.

## CASE PRESENTATION

- Patient: 63-year-old female presented for elective colostomy reversal and parastomal hernia with a significant history of:
  - Unprovoked PE/DVT on chronic anticoagulation.
  - Prior extended left hemicolectomy with end colostomy for diverticular stricture.
- Procedure:
  - Total abdominal hysterectomy & right salpingo-oophorectomy (TAH/RSO).
  - Colostomy takedown with stapled end-to-end colorectal anastomosis. Negative intraoperative air leak test.
  - Parastomal hernia repair.

## IMMEDIATE POSTOPERATIVE COURSE

- Postoperative timeline:
  - **POD 1**: develops mild tachycardia.
  - **POD 2**: rapid deterioration with severe tachycardia, hypotension, and oliguria. Transferred to SICU for vasopressor support.
  - Diagnostic workup:
    - CT abdomen/pelvis: presacral phlegmon containing air and debris, raising high suspicion for an anastomotic leak
    - CTA chest: negative for pulmonary embolism.
    - Extremity duplex: negative for DVT
  - **POD 3**: return to the operating room for presumed anastomotic leak and sepsis.

## INTRAOPERATIVE FINDINGS

- **Key findings**:
  - The colorectal anastomosis was completely intact with a negative intraoperative air leak test.
  - There was diffuse, patchy necrosis of the small bowel and cecum with clearly interspersed segments of viable bowel.
  - The ischemic pattern was highly characteristic of an embolic phenomenon, not low-flow or venous thrombosis.
- **Surgical intervention**:
  - Subtotal colectomy and extensive small bowel resection performed.
  - 90 cm of distal small bowel was preserved.
  - Bowel continuity was not restored; an end ileostomy was matured.
- **Pathology**:
  - Surgical specimen confirmed transmural ischemic changes consistent with infarction, with no evidence of primary bowel pathology (e.g., vasculitis, tumor).



## RESULTS

- Immediate postoperative management:
  - Patient was started on a therapeutic heparin infusion.
  - A full workup for the embolic source was initiated including transesophageal echocardiogram without intracardiac thrombus, vegetations, or significant valvular pathology
- Outcome & follow-up:
  - The patient developed short bowel syndrome due to the extensive resection.
  - Required total parenteral nutrition for nutritional support.
  - Managed with antimotility agents for high ileostomy output.
  - After a prolonged and complex hospital course, she was stabilized and successfully discharged home with TPN.

## CONCLUSION

- If no anastomotic leak can be identified in a deteriorating postoperative patient, we need to consider other rare and devastating diagnoses such as mesenteric embolization.
- Consider embolic ischemia in the differential for septic shock, especially in high-risk patients with a history of unprovoked thromboembolic events.
- Negative imaging (CTA, Duplex) does not definitively rule out a thromboembolic source, as small or dissipated emboli can be missed.
- Preoperative hypercoagulability evaluation and risk stratification may allow for optimized anticoagulation bridging, early recognition, and potentially prevent catastrophic bowel loss.

## REFERENCES

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