Initial Experience with Enhanced Recovery After Surgery (ERAS) and Early Discharge Protocols After Robotic Extended Totally Extraperitoneal (eTEP) Ventral Hernia Repair

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Question

What are outcomes associated with same-day discharge after Robotic eTEP for Ventral Hernia repair?

Background

- First described in 2012 for inguinal hernias, eTEP was later adapted for ventral hernia repair by enabling retrorectus mesh placement.
- Retrorectus (or sublay) mesh avoids complications of intraperitoneal onlay mesh (IPOM) with low recurrence rates.[1]
- eTEP is technically challenging; robotic approach provides greater dexterity and facilitates more extensive dissection.[2]
- Few studies examine ERAS/same-day discharge after robotic eTEP.

Methods

- Single-institution, retrospective case series of all robotic eTEP ventral hernia repairs from Nov 2019 – Oct 2022
- **ERAS protocol**:
  - ✓ judicious use of urinary catheters with removal at end of case
  - ✓ bilateral transversus abdominus plane (TAP) blocks
  - ✓ post-op abdominal wall binders
  - ✓ opioid-sparing analgesia
- **Same-day discharge from PACU if:**
  - ✓ no comorbidities requiring observation +
  - ✓ stable vitals, adequate pain control, ability to void/ambulate

Results

Patient Characteristics

102 patients

Mean age 56.3 ± 12.2

60% male

40% female

56% public insurance

Mean BMI 32.1 ± 5.1

33% 1+ prior hernia repair

Mean ASA class 2.3 ± 0.5

Operative/Hernia Characteristics

Mean Operative Time 3.8 ± 1.2 hours

37% underwent transversus abdominis release (TAR)

12% received drains

Mean hernia size 67.2 ± 144.9 cm^2

Mean mesh size 535.6 ± 259.4 cm^2

Mean EBL 17.2 ± 15.2 mL

30-day Post-Operative Outcomes

Mean Length of Stay 0.5 ± 0.8 days

69% of patients discharged same-day

- 2% hospital readmissions
- 1% reoperation
- 1% hernia recurrence

Mean follow-up 59.2 ± 98.7 days

Discussion

- 69% of robotic eTEP patients were successfully discharged same-day with low rates of 30-day hospital readmissions and reoperation.
- No patients in this cohort required conversion to open surgery and there were no intraoperative complications.
- Aggregate 30-day complication rate was 12%, consisting of seromas (6%) and 1% each of: anterior layer break/hernia recurrence, posterior layer break, rectus sheath hematoma, superficial dehiscence, superficial surgical site infection, positioning-related neuropathy.
- Limitations include short-term follow-up (median follow-up 18 days), retrospective review, and lack of control group for outcomes comparison.

Conclusion

- Initial experience with ERAS protocols and same-day discharges shows this approach is safe and feasible with acceptable short-term patient outcomes for Robotic eTEP Ventral Hernia Repairs.
- Compared to open eTEP for ventral hernias, robotic eTEP enables significant reductions in hospital length of stay.[3]

1 Aliseda, D., et al. (2022). "Short-term outcomes of minimally invasive retromuscular ventral hernia repair using an enhanced view totally extraperitoneal (eTEP) approach: systematic review and meta-analysis." Hernia **26**(6): 1511-1520.
2 Warren, J. A., et al. (2017). "Standard laparoscopic versus robotic retromuscular ventral hernia repair." Surgical Endoscopy **31**(1): 324-332.
3 Collins, C. E., et al. (2023). "Robotic vs. Open Approach for Older Adults Undergoing Retromuscular Ventral Hernia Repair." Annals of Surgery **277**(4): 697-703.

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