Repair of Recurrent Ventral Incisional Hernia After Single Pedicle TRAM Flap Neophallus Construction: A Case Report

Abhilash Chilakamarthi; Rohan Walawalker; Jessica Figueredo, DO; Richard Lu, MD
The University of Texas Medical Branch, Galveston, TX

Introduction

- Transverse rectus abdominis myocutaneous (TRAM) and deep inferior epigastric perforator (DIEP) flaps are commonly employed for reconstructive surgery.
- While versatile, these procedures are often associated with complications including infection, seroma, abdominal bulge, fat necrosis, or hernia.
- Minimally invasive repair of incisional hernia following TRAM flap reconstruction has been demonstrated to be safe and effective.
- There is currently no consensus on the preferred management of abdominal bulge or hernia following TRAM reconstruction.

Case Presentation

- The patient was a 69-year-old transgender Caucasian male with surgical history of bilateral mastectomy and rectus phalloplasty (1980s) and multiple incisional herniorrhaphies (most recent 2011)
- He presented to clinic with a 5-year history of lower left inguinal bulge associated with worsening left lower abdominal pain exacerbated by physical exertion.
- Physical examination revealed a left lower inguinal hernia that was adjacent to his prior surgical incision (Figures 1,2).
- CT Abdomen and Pelvis was notable for an absent left rectus muscle and left lower abdominal wall hernia (Figure 3).
- Following multidisciplinary operative planning, the patient underwent laparoscopic robotic-assisted ventral herniorrhaphy with mesh utilizing a transabdominal preperitoneal approach.
- The operative course was uneventful, with only noted omental adhesions and the absence of the left rectus muscle intraoperatively (Figure 4).

Preoperative Physical Exam



Figure 1



Figure 2

Figures 1,2 . Preoperative images of incisional hernia defect in the scars from the TRAM flap harvest and prior hernia repairs

Preoperative Imaging



Figure 3. Axial CT Abdomen and Pelvis showing hernia defect 3 months prior to operative repair.

Operative Course

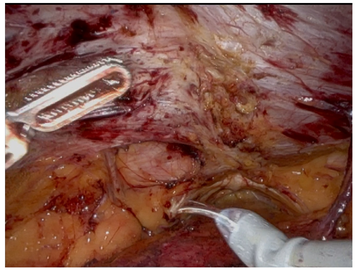


Figure 4. Absent left rectus abdominis muscle

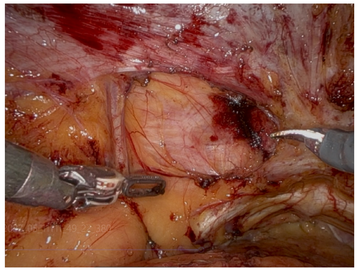


Figure 5. Hernia defect

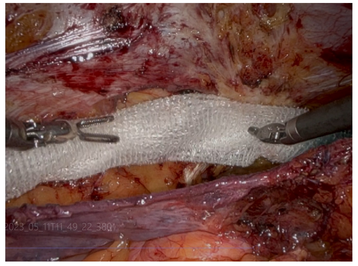


Figure 6. Mesh placement

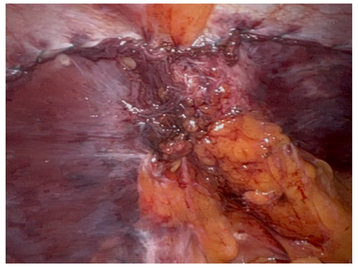


Figure 7. Closure of peritoneal flap

Discussion

- Hernia development is a common postoperative complication following abdominal surgeries with regularly updated guidelines regarding their management.
- Comparatively, there is less information and no consensus regarding management of hernias following TRAM/DIEP flap reconstructions.
- Despite adaptations to TRAM flap harvesting, DIEP flap utilization, and mesh incorporation at the time of initial abdominal closure, abdominal bulging and hernia development remains common.
- The earliest methods of TRAM flap harvesting resulted in abdominal wall laxity rates up to 43%.
- TRAM and DIEP flaps have remained highly utilized in reconstructive surgery as theoretical tissue-engineered options are not available for clinical practice, resulting in a high population at risk for developing abdominal bulge or hernia.
- Successful repair of hernias following TRAM/DIEP via minimally invasive approaches have been reported.
- Robotic-assisted hernia repair with intraperitoneal mesh presents an additional option for surgeons and patients given its comparable outcomes to laparoscopic approaches.
- Robotic-assisted preperitoneal hernia repairs have demonstrated lower reoperation rates and postoperative opioid use in inguinal hernia repair. These benefits may carry over to the management of hernias following TRAM/DIEP flap procedures.

Conclusion

- Following multidisciplinary planning, a laparoscopic robotic-assisted ventral herniorrhaphy with preperitoneal mesh placement achieved a favorable outcome in the management of a recurrent ventral incisional hernia following TRAM flap neophallus construction in a transgender male patient.
- The patient's symptoms resolved postoperatively, and he remained symptom-free at three-month follow-up, without evidence of hernia recurrence on examination.
- This case report underscores the importance of recognizing potential complications in patients with history of non-traditional uses of surgical techniques.
- Further research and awareness of complications in such cases are warranted to improve patient care in similar scenarios.