Six Year Outcome from a Complex Lateral Wall Hernia Repair with Mesh Strips

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INTRODUCTION

- Component separation was described in the 1990s by Ramirez and colleagues and has been further refined to aid in closure of midline ventral hernias.[1-2]
- Complications from a component separation are more commonly surgical site infection.[3]
- Mesh suture was approved by the FDA in 2022, designed as a mid-weight polypropylene network of suture.[4-5]
- This case describes a rare complication of dehiscence at lateral abdominal wall component separation site and subsequent repair with mesh suture.

CASE REPORT

- Patient is a 69 year old male presenting with recurrent ventral hernia, loss of domain, and *Pseudomonas* infected mesh (Figure 1).
- Past medical history: BMI 33, type 2 diabetes, GERD, HTN, HLD.
- Past surgical history: patient had previously undergone ventral hernia repairs with retrorectus, onlay, bridging and underlay mesh.
- Decision was made to take the patient to the operating room to excise the chronically infected mesh for source control as well as repair of recurrent ventral hernia.

OPERATIVE CASE

- Index case:
  - Mesh and hernia defects excised for a total defect of 12cmx25cm.
  - Unable to close midline without tension so left external oblique (EO) myofascial flap release performed with 9cm of advancement gained.
  - Absorbable underlay mesh placed with subcutaneous wound vac.
- POD3 fascia dehiscence at EO site with all three layers of abdominal wall split for a total of 10cmx13cm (Figure 2). Wound vac placed and botox done.
- POD 12 takeback to OR for Whitman patch to help with closure as botox took effect.
- POD 21 the defect measured 30cm long by 12cm wide. Takeback using 24 “early mesh propylene strips” spaced at 1cm intervals and reinforced with absorbable mesh in an underlay fashion with transfascial sutures (Figure 3).
- Patient recovered well post-operatively.
- He presented six years later for unrelated inguinal hernias and his CT showed no recurrence (Figure 4).



Figure 1. CT showing infected mesh and recurrent hernia.



Figure 2. Dehiscence and evisceration at previous oblique release site.

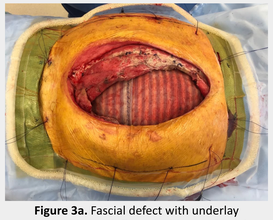


Figure 3a. Fascial defect with underlay absorbable mesh fixated with transfascial sutures.

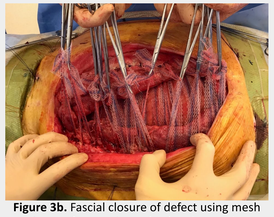


Figure 3b. Fascial closure of defect using mesh strips cut from a piece of soft polypropylene mesh.



Figure 4. CT images 6 years post-operatively showing no recurrence.

DISCUSSION

- Complications from component separations may be rare, but they can be severe.
- This case demonstrates a severe complication of a component separation where the patient was intubated, admitted for weeks, and had to undergo multiple recurrent operations.
- While this case demonstrates “early mesh propylene strips,” mesh suture has further developed since this time.
- This case also demonstrates that mesh suture may be used in innovative ways to repair abdominal wall defects that may seem unsalvageable.
- There is no literature reporting the use of mesh suture in this way and further studies need to be done to assess its uses and efficacy in salvage procedures.

CONCLUSION

Fascial dehiscence at component separation site is a severe complication and the innovative use of mesh suture may be a safe way to perform salvage repair.

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