

Staged Repair of Massive abdominal Wall Defect in a Patient after Repair of Enterocutaneous Fistula

S Neragi-Miandoab, J Lipman, M Rosen

Citation

S Neragi-Miandoab, J Lipman, M Rosen. *Staged Repair of Massive abdominal Wall Defect in a Patient after Repair of Enterocutaneous Fistula*. The Internet Journal of Surgery. 2006 Volume 9 Number 2.

Abstract

We report about a 50 year old male with a massive abdominal wall defect following takedown of multiple enterocutaneous fistula, who underwent staged repair. His past surgical history was notable for multiple ventral hernia repairs after a subtotal colectomy and end ileostomy for Crohn's disease. He developed multiple recurrent enterocutaneous fistula secondary to unstable abdominal wall coverage.

CASE DESCRIPTION

We report about a 50 year old male with a massive abdominal wall defect following takedown of multiple enterocutaneous fistula, who underwent staged repair. His past surgical history was notable for multiple ventral hernia repairs after a subtotal colectomy and end ileostomy for Crohn's disease. He developed multiple recurrent enterocutaneous fistula secondary to unstable abdominal wall coverage.

The patient underwent fistula takedown and ileostomy reciting resulting in a 20x27cm fascial defect. The defect was temporarily repaired with Gore-Tex Dual Mesh secured to the fascial edges under tension. The patient underwent serial excision of the central aspect of the mesh every four days. Five staged procedures reduced the fascial defect to a 3cm width. At the final procedure, the Gore-Tex mesh was excised and component separation was performed contralateral to the ileostomy. The primary fascial repair was reinforced with a dual layer of AlloDerm. The patient was discharged home seven days after his final procedure with excellent ileostomy function. At four months follow up there were no wound complications or signs of recurrent hernia or fistula formation (Figure 1).

Figure 1

Figure 1: 1A demonstrates the abdominal facial wall defect (20x27cm) in a patient after fistula takedown and ileostomy. The defect was temporarily repaired with Gore-Tex Dual Mesh secured to the fascial edges under tension. Serial excision of the central aspect of the mesh reapproximates the fascial edges and reduces the defect. Figure 1A shows the preoperative abdominal wall defect. Figure 1B; the facial defect (20x27 cm) was covered with mesh. Figures 1C and 1D show multiple excisions of the central part of the mesh and reapproximation of the edges. Figure 1E; abdominal wall after final repair. 1F: 4 months follow up in the out-patient clinic.



COMMENT

Large abdominal wall defects with concomitant contamination are formidable challenges. Permanent prosthetic materials are contraindicated due to unacceptably high risks of extrusion or infection.^{1, 2} Local advancement flaps using component separation are useful for reconstructing abdominal wall hernias in contaminated conditions. With massive defects and concurrent stomas, component separation is often unable to achieve primary

fascial closure.^{2, 3} Some advocate using AlloDerm as a fascial bridge.⁴ However, this results in excessive laxity of the abdominal wall and provides an unstable platform. If a fascial defect is too large to achieve primary fascial closure despite adequate component separation, a staged procedure is chosen.³

The staged repair of complex abdominal wall defects includes: stage I, Gore Tex Dual Mesh and temporary closure, stage II, reapproximation of fascial edges and shortening of mesh, and stage III, removal of mesh, component separation, primary fascial reapproximation, and placement of AlloDerm reinforcement. By minimizing tension and providing a durable biocompatible matrix for support, staged hernia repair with component separation and bilaminar acellular dermal allograft should be considered for the repair of complex ventral hernias.

CONCLUSION

Using this approach we achieved primary fascial closure in an extremely challenging patient with multiple enterocutaneous fistulas, an end ileostomy, and a massive abdominal wall defect. By minimizing tension and providing

a durable biocompatible matrix for support, staged hernia repair with component separation and bilaminar acellular dermal allograft should be considered for the repair of complex ventral hernias.

CORRESPONDENCE TO

Siyamek Neragi-Miandoab, M.D., Ph.D. General Surgery
Department of Surgery, Case Western Reserve University
School of Medicine 11100 Euclid Ave., Cleveland, OH USA
E-mail: Sneragi@yahoo.com Cellular: 001 312 259 5103

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Author Information

Siyamek Neragi-Miandoab

Jeremy Lipman

Michael Rosen