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

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Citation

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).

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. 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. Some advocate using AlloDerm as a fascial bridge. 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.

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.

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