

SurgiMend™

Collagen Matrix for Soft
Tissue Reconstruction

Repair of a Recurrent Ventral Hernia with SurgiMend™

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Patient Presentation

A 45-year-old man with a prior history of exploratory celiotomy for trauma and multiple repairs of abdominal wall hernias presents with a large defect of the abdominal wall for elective repair.

Five years prior, the patient presented to the Emergency Department with abdominal wall necrotizing fasciitis two days after an outpatient repair of an incarcerated recurrent ventral hernia using synthetic mesh. Extensive debridement of the abdominal wall was performed, along with an abdominal exploration and resection of perforated and necrotic bowel. A Bogotá bag was required to close the gapping edematous abdominal wall; it remained in place for a week. Closure at seven days was not possible and split thickness skin grafts were placed over the granulating bowel surface.

A few months later, the patient returned for surgical intervention to close an enterocutaneous fistula, which was performed through a lateral flank incision. This procedure was successful; however, the abdominal wall could not be reconstructed at that time. The patient recovered and a number of years later requested repair of his abdominal wall defect.

Surgical Intervention

The defect measured 25 cm x 50 cm and contained most of the abdominal bowel contents. The surgical plan included provisions for dermabrasion of the split-thickness skin graft should it prove to be a difficult removal from the underlying bowel, component separation of the abdominal wall, and placement of SurgiMend to bridge the defect while reinforcing the repair if a component separation was utilized.

At the time of surgery, the split-thickness graft was not adherent to the bowel and dissected freely from the underlying tissue. Component separation of the rectus muscles and tendon sheaths was accomplished from xiphoid to pubis (Figure 1).

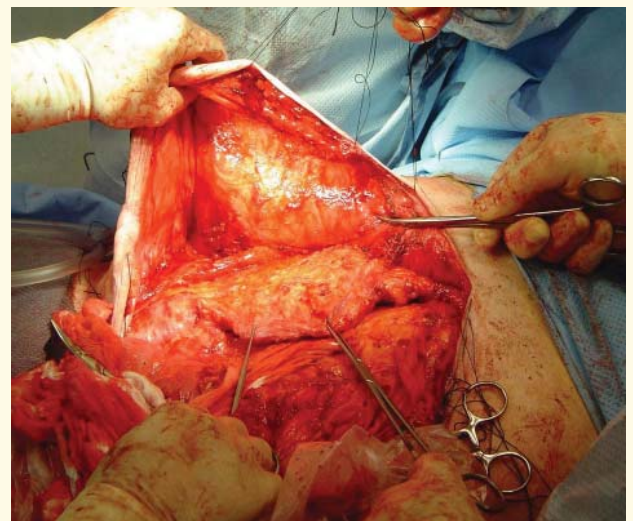


Figure 1. Component separation of rectus muscles and tendon sheaths.

Surgical Intervention, Continued

The anterior components of the sheath were rotated medially after placement of two sheets of SurgiMend, 13 cm x 25 cm each, beneath the rectus (Figure 2). The SurgiMend was secured with interrupted 0-polypropylene sutures approximately 4-5 cm from the edge of the separated components of the abdominal wall. SurgiMend was secured to the periosteum of the pubis in a similar fashion (Figure 3). The rectus sheath components were sutured with 0-polypropylene running sutures. The anterior aspect of the repair was reinforced with additional SurgiMend, 10 cm x 15 cm, as an onlay patch. SurgiMend was selected for this repair because of its low incidence of adhesion formation to underlying tissue and its ability to remodel over time.

Clinical Outcome

The patient recovered in the ICU and was ventilated for a period of time to allow compensation for the return of abdominal contents into the abdominal cavity. A seroma was noted at the proximal aspect of the wound on the 10th post-operative day; it drained spontaneously for about two weeks, never became a frank infection (culture negative) and healed completely without any intervention. At nine months post-op, the wound has healed completely. There is no evidence of reherniation and the cosmetic result is acceptable.

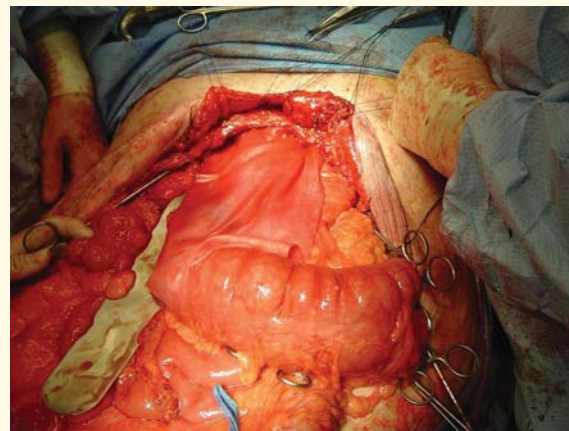


Figure 2. Suturing SurgiMend to the abdominal wall using interrupted 0-polypropylene sutures.

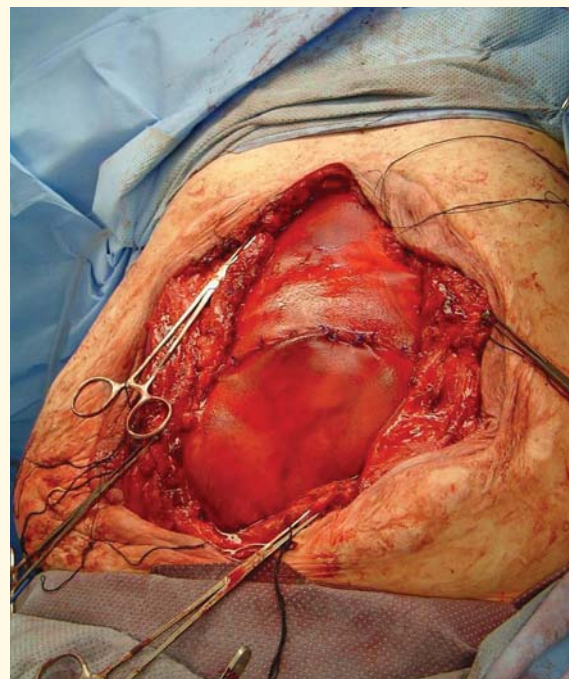


Figure 3. Two 13 cm x 25 cm pieces of SurgiMend secured in place beneath the rectus muscles.

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