

## ***Repair of an Open Abdomen Secondary to Necrotizing Pancreatitis Using AlloDerm®***

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### **Challenge**

**Insulin-dependent diabetic**

### **History**

A 44-year-old-male developed traumatic necrotizing pancreatitis following a motor vehicle accident. The pancreatitis was managed with marsupialization and serial open debridements with packing. The wound was allowed to close secondarily and the skin defect was ultimately covered with a split-thickness skin graft. No attempt was made to close the fascial defect. Due to the massive size (approximately 25 cm x 35 cm) of the defect comprising the grafted hernia wound and retraction of the native soft tissue, the abdominal skin did not adequately cover the fascial defect and the abdomen.

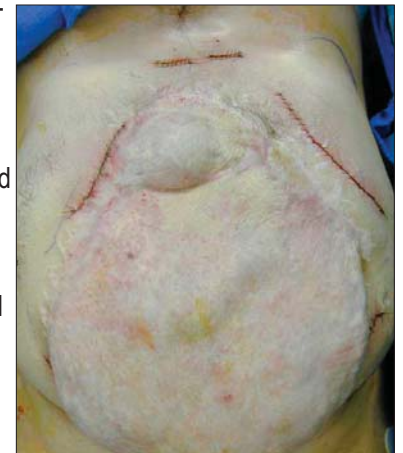


Fig 1. Initial hernia wound with split-thickness skin graft

At 6 months after the initial injury, four large tissue expanders were placed under the skin to generate expanded tissue sufficient to close skin over a planned prosthetic mesh. A hematoma that developed at the site of one of the tissue expanders caused dehiscence of the wound, thereby necessitating removal of the expander. The remaining three expanders were inflated to their maximum capacity of 800 cc's over 12 weeks.

### **Surgical Intervention**

#### **Interpositional AlloDerm® placement in ventral hernia repair**

After circumferentially incising the skin graft, it was gently dissected free of the underlying colon and small intestine. In the course of this dissection, several small bowel enterotomies occurred but were able to be repaired primarily. The dense adhesions of the bowel to the margins of the native fascia were lysed, allowing reduction of the bowel into the abdomen. It was evident that there was a loss of abdominal domain and, despite bilateral component separation from pubis to xiphoid, unacceptable tension would challenge the closure and place the patient at risk for an abdominal compartment syndrome and failure of the repair.

## Surgical Intervention

(continued)

### Interpositional AlloDerm® placement in ventral hernia repair

Four 4 cm x 12 cm pieces of AlloDerm® were sutured together in a side-by-side fashion using running 0 polypropylene to create a single fascial graft measuring 16 cm x 24 cm. The sutured pieces allowed closure of the comparatively larger defect due to the natural expansion of rehydrated AlloDerm® when sutured within the operative site under moderate tension. AlloDerm® thus expanded to 50% greater area than the packaged pieces. The AlloDerm® graft was then sutured using running 0 polypropylene to the edges of the rectus fascia securely closing the fascial defect. Two closed suction drains were placed over the AlloDerm® graft and brought out through separate incisions. The expanded skin was advanced over the AlloDerm® and closed in the midline.

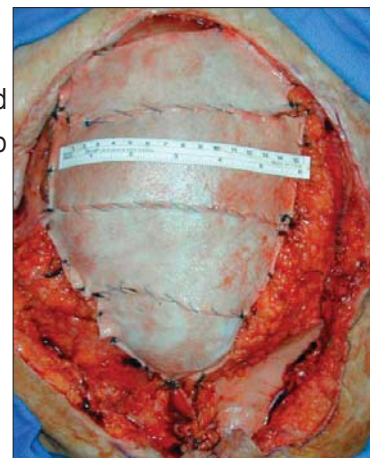


Fig 2. Closure of fascial defect with AlloDerm®

## Post-operative patient status

Even though the skin appeared viable at the time of closure, the patient developed ischemic necrosis and skin separation at the center of the incision. On post-op day 10, the necrotic skin was locally debrided, leaving an 8 cm x 12 cm area of exposed AlloDerm®. This exposed area was managed with local care only, kept moist with application of 1% Silvadene® twice daily and allowed to granulate. The defect closed over the course of 3 months without infection, chronic sinuses, hypertrophic granulation or destruction of the underlying AlloDerm®. At two year follow-up there was no recurrence of the hernia and no further complications requiring intervention.

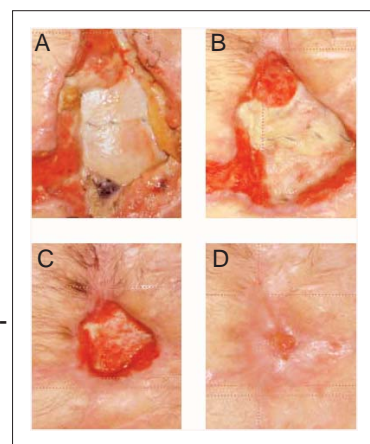


Fig 3. Photos of exposed AlloDerm® taken at 2-3 week intervals show closure of the wound.

## Conclusion

Although various synthetic mesh materials could have been used to close a large fascial defect in a case such as this, AlloDerm® provided significant benefits by supporting rapid revascularization and resistance to infection. Despite the development of ischemic necrosis and subsequent exposure of the AlloDerm®, the wound was able to heal on its own without additional surgery.

*Before use, physicians should review all risk information, which can be found in the Directions for Use attached to the packaging of each AlloDerm® graft.*