

## **REPAIR OF THE MASSIVE ABDOMINAL SKIN GRAFTED HERNIA WITH SIMULTANEOUS BILATERAL BIPEDICLE ANTERIOR ABDOMINAL WALL FLAPS AND PERMANENT PROSTHESIS**

Stephen R. Sullivan, Loren H. Engrav, Daniel A. Anaya, Eileen M. Bulger, Hugh M. Foy  
Harborview Medical Center, Seattle, WA

**INTRODUCTION:** Severe intra-abdominal injury or abdominal compartment syndrome management often includes leaving the abdominal fascia open for planned re-operation or to relieve pressure. In our experience, 75 % of open abdomens can be closed, while 25% cannot. Failed closure requires containment with absorbable mesh and coverage with skin grafts. Many of these hernias can later be repaired. However, most repair methods provide inadequate coverage for hernias greater than 20 cm in width. These massive hernias impair bowel, bladder and respiratory function and have poor aesthetic appearance. We describe a method to close massive hernias using simultaneous bilateral bipedicle anterior abdominal wall flaps and permanent mesh.

**METHODS:** We performed a review of patients who had this method of hernia repair. This staged repair involves creation of bilateral bipedicle abdominal wall skin and subcutaneous tissue flaps followed by delay. When the flaps are well vascularized and can advance to the midline, the hernia skin graft is excised and abdominal wall integrity recreated with permanent mesh. The flaps are then advanced to cover the mesh.

**RESULTS:** Six male patients had massive hernias and five completed this staged repair while one elected to stop after flap delay. Average hernia size was  $885 \pm 274$  cm<sup>2</sup> (28 width x 31 vertical cm) with a range up to 37 cm in width. The average operation number was  $3.7 \pm 1.2$  with a mean inpatient stay of  $22 \pm 11.3$  days. No patients developed hernia recurrence or enterocutaneous fistula with a mean follow-up of  $27.8 \pm 8.3$  months.

**CONCLUSION(S):** We describe closure of massive skin grafted hernias using simultaneous bilateral bipedicle anterior abdominal wall flaps covering a permanent prosthesis. These patients have hernias larger than can be closed with most previously described techniques. This method provides a functional, durable, and aesthetically improved repair of massive hernias.