

Subcutaneous talc and fibrin glue decrease post-operative wound complications after massive open ventral hernia repair with panniculectomy.

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Abstract:

Introduction: The most common complications of open ventral hernia repair with concomitant abdominal wall reconstruction/panniculectomy (OVHR/AWR) involve wound problems and range from seroma formation to cellulitis/infection to wound breakdown. Following simple open ventral hernia repair, these complications occur in 12-20% and increase to 17-34% when combined with panniculectomy or abdominoplasty. Multiple techniques have been suggested for preventing seroma formation which can lead to more serious wound complications. This study evaluates a novel technique of applying talc and fibrin glue in the large subcutaneous flaps to prevent seroma formation. **Methods:** A prospectively collected surgical outcomes database was accessed to identify all patients undergoing OVHR/AWR at a single institution from 1999-2009. Patients were divided into two groups based on subcutaneous application of talc and fibrin glue: those that did not receive talc and fibrin glue therapy (PRE) and those that did receive talc and fibrin glue therapy (POST). Demographics, perioperative data, and outcomes were analyzed using standard statistical methods. **Results:** We identified 106 patients in the PRE group and 25 patients in the POST group. In the PRE group, mean age was 53.7 years (range 24-76), mean BMI was 36.93 (range 22-62) mean ASA was 2.48, mean hernia defect size was 208 cm² (range 6-1225), mean number of previous hernia repairs was 2.32 (range 0-16), mean LOS was 7.8 days (range 2-46), and mean follow-up was 5.34 months. In the POST group, mean age was 54.6 years (range 32-73), mean BMI was 36.2 (range 21-59), mean ASA was 2.33 mean hernia defect size was 302.3 cm² (range 7.5-875), mean number

of previous hernia repairs was 1.36 (range 0-6), mean LOS was 9.1 days (range 4-29), and mean follow-up was 2.0 months. Of these variables the only one that was statistically different was hernia defect size ($p = 0.0098$). Rate of total wound complications for the PRE and POST groups were 0.64 and 0.28 respectively ($p = 0.083$). For the PRE group, oral antibiotics were prescribed in 25.5%, intravenous antibiotics or drainage of wound infection occurred in 11.3%, seroma intervention occurred in 16%, and wound breakdown occurred in 11.3%. For the POST group, oral antibiotics were used in 8%, intravenous antibiotics or drainage of wound infection occurred in 8%, seroma intervention occurred in 8%, and wound breakdown occurred in 4%. Discussion: In an attempt to decrease wound complications after massive OVHR/AWR, we have begun to treat the large subcutaneous flaps created for the panniculectomy with talc and fibrin glue. (Figure Presented) We found a decreased percentage of wound complications in all categories in the patients that received talc and fibrin glue therapy and a nearly significant reduction in complication risk when considering all wound problems; this is despite the POST group having statistically larger hernias. This early data is very encouraging and suggests that talc and fibrin glue will provide a means to decrease wound complications in massive ventral hernias.