

Evaluating Outcomes of Giant Ventral Hernia Repair (GVHR): Are They Suboptimal? A Propensity-Matched Analysis

Samantha Kerr MD¹, B. Mead MD², A. Holland MD¹, W. Lorenz MD¹, G. Scarola MS MBA¹, K. Kercher MD¹, V. Augenstein MD¹, B.T. Heniford MD³, S. Ayuso MD³

¹Carolinas Medical Center, Charlotte, North Carolina, US

²Rush University Medical Center, Chicago, Illinois, US

³Endeavor Health, Evanston, Illinois, US

Aim: To examine clinical outcomes in GVHR with hernia defect size (HDS) ≥ 200 cm² vs non-GVHR (nGVHR) with defect size < 200 cm² using a propensity-matched approach.

Introduction:

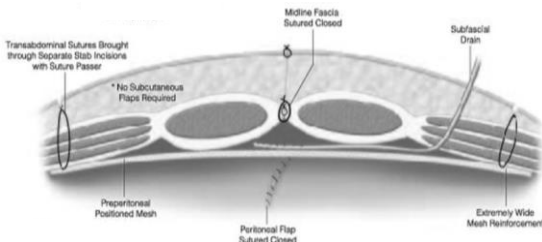
Strategies for Addressing GVHR

- Component separation (CST)
- Botulinum Toxin A (BTA)
- Preoperative optimization, “prehabilitation”
- Extensive mesh overlap



Methods:

- Prospectively maintained hernia database
- Tertiary hernia center in USA
- 1:1 propensity-score matching
- Excluded: CDC 3/4 wounds and concomitant intraabdominal procedures
- Primary outcome: hernia recurrence
- Multivariable regression (MVR) to determine predictors of hernia recurrence



Results:

PSM Data

254 well-matched pairs (all $p > 0.05$):

Age, BMI, Diabetes, Current & Former smokers, # comorbidities, Fascial closure, Primary hernia, CDC 1/2, and ASA score

Preoperative & Operative Data

All $p < 0.001$:

Defect size: 354.7 ± 132.1 vs. 103.8 ± 61.9 cm²

Mesh size: 1161.9 ± 450.0 vs. 771.2 ± 388.4 cm²

Botulinum Toxin: 15.4% vs. 2.8%; $p < 0.001$

CST: 50.6% vs. 23.7%; $p < 0.001$

Outcomes

Hernia recurrence: 4.3% vs. 2.4%; $p = 0.217$

Follow-up: 24.0 ± 37.8 vs. 27.4 ± 40.4 months; $p = 0.558$

Wound complications: 33.5% vs. 15.4%; $p < 0.001$

Respiratory insufficiency/failure: 4.7% vs. 0.8%; $p = 0.012$

Avg LOS: 6.9 ± 5.1 vs. 5.0 ± 2.0 days; $p < 0.001$

Reoperation: 9.8% vs. 4.7%; $p = 0.028$

Predictors of Recurrence

Recurrent repairs (OR 1.44, 95% CI: 1.41–225.9)

Wound complication (OR 2.82, 95% CI: 1.03–7.67)

Conclusions:

In a matched cohort of patients where fascial closure was achieved, GVHR had comparable rates of long-term hernia recurrence to nGVHR. GVHR required greater rates of component separation and preoperative adjuncts, such as BTA injection, in order facilitate fascial closure.