dermal matrix (ADM) is required in selected patients. The most common bioprosthetic mesh used for this procedure is the porcine acellular dermal matrix (Strattice®). The use of Bovine acellular dermal matrix (SurgiMend®) has not been well defined in complex abdominal wall reconstruction. The authors set out to investigate whether the use of Surgimend® has comparable outcomes at a significantly reduced cost when compared to Strattice®.

METHODS: We performed a retrospective chart review of all patients who underwent complex abdominal wall reconstruction at the time of ventral hernia repair with component separations using SurgiMend® mesh between January 2012 and November 2016 by the senior author. Patient demographics, surgical and clinical outcomes were reviewed and assessed. Results were then compared to published literature of similar patients who required the same procedure but with the most common acellular dermal matrix Strattice®. In addition, the hospital cost of the SurgiMend® mesh used in each case was compared to the cost of an equivalently sized piece of Strattice® mesh.

RESULTS: Fifty-eight patients were identified during this period who underwent components separation with the use of SurgiMend®. The minimum post-operative follow up time was twelve months. Seven cases of wound infections were identified (12.1%). Postoperative partial wound dehiscence without mesh exposure was seen in seven cases (12.1%). There were two cases of hematoma (3.4%) and three recurrences (5.2%). These results were compared to published literature of comparable cases in which Strattice® mesh was used for the reinforcement of the complex repair. The results of our study confirm that SurgiMend® surgical outcomes are comparable to those described in the literature for Strattice®. The cost of a centimeter squared of each of the ADMs was obtained from our institution (SurgiMend® $22 Vs. Strattice® $24). We then calculated the mean cost of SurgiMend® mesh used in all fifty-eight cases and compared it to the mean cost of equivalently sized Strattice® mesh. The cost for the SurgiMend® was calculated to be $12,342.8 ± 366.1 (SEM) which was significantly less than the cost for Strattice® at $13,425.7 ± 392.3 (SEM) (p = 0.0459).

CONCLUSION: In patients requiring complex abdominal wall reconstruction with separation of abdominal components and the use of acellular dermal matrix mesh, both SurgiMend® and Strattice® appear to have comparable surgical and clinical outcomes based on previous published literature and our study results. SurgiMend® should be considered as a safe, cost effective option for complex abdominal wall reconstruction.

Concurrent Panniculectomy and Ventral Hernia Repair in Overweight and Obese Patients: A Retrospective Assessment of Clinical Outcomes, Cost, and Quality of Life

Presenter: Catherine E. Hutchison, BA

Co-Authors: Irfan A. Rhemtulla, MD, MS; Jaclyn T. Mauch, BA; Charles A. Messa IV, BS; Robyn B. Broach, PhD; Jesse Y. Hsu, PhD; Fabiola A. Enriquez, BA; Jeffery I. Rohrbach, MSN; Noel N. Williams, MD, FRCSI; Sean P. Harbison, MD; John P. Fischer, MD, MPH

Affiliation: University of Pennsylvania, Philadelphia, PA

PURPOSE: Overweight and obese patients suffering from ventral hernias represent a unique cohort of patients, where the combination of these morbid disease processes result in a shared surgical challenge. Abdominal wall reconstruction combining ventral hernia repair (VHR) with panniculectomy (VHR-PAN) in the overweight or obese patient has been highly debated. Advantages of the combined procedure include removal of inflamed or infected soft tissue, complete abdominal wall exposure for an efficient intraoperative repair, and the avoidance of a second surgical procedure. Disadvantages include the risk of higher complication rate and unplanned reoperations. Existing literature fails to integrate clinical outcomes with cost and patient-reported outcomes from both a cosmetic and functional perspective. Due to increased prevalence of obese patients with ventral hernia, we present a comprehensive comparison between VHR-PAN and VHR alone in overweight or obese patients by examining clinical outcomes, cost, and quality of life (QoL).

METHODS: A retrospective review was conducted for eighty-three patients with body mass index (BMI) > 25.0 kg/m² who underwent VHR-PAN (n=51) or VHR alone (n=32) between September 1, 2015 and May 30, 2017 by a single surgeon at the University of Pennsylvania. QoL was assessed using the Hernia-related Quality of Life
Life Survey (HerQLes). Cost was calculated using hospital billing data. Patient demographics were collected and statistical analyses were performed using Fisher’s exact tests, Mann-Whitney U tests, and regression modeling.

RESULTS: Mean BMI of the VHR-PAN and VHR alone group was 38.9 kg/m² and 33.5 kg/m², respectively. Hernia defect size (p=0.516), mesh placement (p=0.644), component separation (p=0.5063) and hernia recurrence rates (p=1.000) were similar in both cohorts. Additionally there was no significant difference in operative time (p=0.834) or days to drain removal (0.711) between both groups. Rate of prior bariatric surgery (p=0.0533) trended towards significantly different in the VHR-PAN group. 64% of patients completed QoL surveys, showing significant improvement from pre- to post-operative scores, regardless of whether a panniculectomy was performed (p < 0.02). Mean direct hospitalization costs were not significantly different between the two groups (p=0.165), as well as mean hospital stay (p=1.00). After regression modeling, the procedure performed did not significantly contribute to differences in cost, wound complications, including wound dehiscence and SSI, or hernia recurrence between the two groups. Higher wound class (p=0.0105) and longer hospital length of stay (p=0.0481) were independently associated with an increase in total direct cost, while higher BMI trended towards significance (p=0.0501) with increasing total direct cost.

CONCLUSION: The addition of a panniculectomy to VHR does not significantly increase cost or complication rates, including wound events or hernia recurrence. This study highlights the safety and efficacy of performing concurrent ventral hernia repair with panniculectomy in obese and overweight patients, as evident through equal improvements in QoL, post-operative outcomes, and cost. Furthermore, a prospective, randomized controlled trial is needed to continually assess long-term outcomes of VHR-PAN.

Erogenous Sensate Vaginal Flap for Male to Female Vaginoplasty

Presenter: Kian Adabi, BA

Co-Authors: Tony Chieh-Ting Huang, MD, MSc; M. Diya Sabbagh, MD; Jorys Martinez-Jorge, MD; Pedro Ciudad, MD, PhD; Ricardo Galan, MD; Oscar J. Manrique, MD

Affiliation: Mayo Clinic Rochester, Rochester, MN

PURPOSE: The lack of erogenous sensitivity in the neo-vagina is one of the major shortcomings for patients undergoing male to female genital confirmation surgery. A clitoral flap derived from the glans penis serves as the only source of erogenous sensitivity for these patients. A cadaveric and histological based comparison of the branches of the dorsal nerve of the penis (DNP) utilized in and remnant after the harvest of the clitoral flap is done to assess the feasibility, optimal design, and potential benefits of a sensate neurovascular pedicle flap for erogenous vaginal sensation in this patient population.

METHODS: An anatomic dissection of the DNP was performed in 10 male pelvises to identify major trunks and their branches. Their location, diameter, branching pattern along the dorsal aspect of the penis were recorded. Main branches of DNP within the medial dorsal aspect of the penis were preserved for a clitoral flap, while those more lateral were used as innervation for the sensate vaginal flap. The number of main branches in the lateral dorsal aspect of the penis were calculated to ensure sufficient erogenous innervation to vaginal flap. The number of main branches in the lateral dorsal aspect of the penis were calculated to ensure sufficient erogenous innervation to vaginal flap. Cross-sections of the penis at proximal and distal points were used for histological analysis with similar medial and lateral compartmentalization. An optimal width and length of the sensate vaginal flap was recommended based on these cadaveric findings.

RESULTS: The DNP was composed of on average 4, 5, 6 main branches in 2 (20%), 4 (40%), and 4 (40%) cadavers, respectively. Lateral main branches with 1, 2, and 3 main branches in the lateral compartment seen in 2 (20%), 6 (30.7%), 2 (42.8%) cadavers, respectively. These findings were consistent with histological cross-sectional analysis, and further showed increasing branching with more distal cross-sections. A sensate vaginal flap from the lateral aspect of the glans penis with a mean width of 1.14 cm (range, 0.9 – 1.28 cm) ensured at least one main branch of the DNP for erogenous sensitivity. This sensate vaginal flap and its neurovascular pedicle had mean length of 9.8 cm (range, 8.7 to 10.3) allowing its rotation into the anterior vaginal canal.

CONCLUSION: Lateral branches of the DNP can be preserved after clitoroplasty for reconstruction of a sensate vaginal flap that measures approximately 1 cm in width and has neurovascular pedicle between 8.7 to 10 cm in length. Inset within the anterior vagina wall, this sensate flap can provide patients with an erogenous vaginal “spot” during