

## RECONSTRUCTIVE ABSTRACTS

### The Use of Vertical Rectus Abdominis Myocutaneous Flap for Pelvic Reconstruction: What Are the Risk Factors for Complications?

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**PURPOSE:** Perineal and pelvic defects resulting from radical surgical resection, pelvic exenteration, sacrectomy, and recurrent cancer resections are frequently large and frequently present a reconstructive challenge. These defects often require flap reconstruction to close a large skin defect, obliterate the pelvic or sacrectomy cavities, or reconstruct the vaginal canal.<sup>1,2</sup> One of the most common used flaps for pelvic reconstruction is the inferiorly based vertical abdominis myocutaneous (VRAM) flap.<sup>3</sup> This flap has reliable vascularity and can be easily prepared, providing a potentially large amount of tissue.<sup>2</sup> The aim of this study is to present a 25-year single institution experience with VRAM flaps for perineal and pelvic reconstruction and study risk factors associated with surgical complications.

**METHODS:** A retrospective chart review of patients who underwent pelvic resection followed by VRAM flap reconstruction from 1994 to 2019 was done. Patient demographics, clinical and surgical characteristics, postoperative outcomes, and complications were reviewed. Univariate and multivariable conditional logistic regression models were used to assess predictors of risk factors for surgical complications (wound dehiscence, wound infection, hematoma, seroma, or flap necrosis). All the tests were 2-sided, and a value of  $P < 0.05$  was considered significant. Receiving operating characteristics curves and area under the curves were calculated to study the effect of body mass index (BMI) in surgical site complications and postoperative hernia. Analyses were performed in JMP, Pro 14 (SAS Institute Inc., Cary, N.C.).

**RESULTS:** A total of 235 patients were evaluated, with mean follow-up of 41.2 months (interquartile range, 7.8–62). On multivariate analysis, patients who had pre-existing abdominal hernia at the time of surgery (odds ratio [OR], 3.3; 95% confidence interval [CI], 1.3–8.6;  $P = 0.016$ ), received immunosuppressive drugs (OR, 6.1; 95% CI, 1.4–25.9;  $P = 0.015$ ), or used mesh in the donor site of the VRAM (OR, 2.6; 95% CI, 1.1–5.9;  $P = 0.031$ ) were

significantly associated with developing surgical complications. Additionally, patients with higher BMI were associated with an increased risk of developing a postoperative abdominal hernia ( $P = 0.047$ ). For each point increase in BMI, the odds of hernia increased by 4.9% and the optimal cutoff to predict higher hernia rates in these patients was a BMI of 32 kg/m<sup>2</sup> (area under the curve, 0.586).

**CONCLUSION:** Patients undergoing VRAM flaps for pelvic or perineal reconstruction who were immunosuppressed, had a pre-existing abdominal hernia at the time of surgery, or underwent placement of mesh in the donor site are at increased risk of surgical complications. In addition, patients with high BMI have an increased risk of developing postoperative ventral hernias. Better preoperative patient selection and counseling based on the identified risk factors may help improve outcomes for patients undergoing VRAM for pelvic reconstruction.

#### REFERENCES:

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2. Creagh TA, Dixon L, Frizelle FA. Reconstruction with vertical rectus abdominus myocutaneous flap in advanced pelvic malignancy. *J Plast Reconstr Aesthet Surg*. 2012;65:791–797.
3. Nelson RA, Butler CE. Surgical outcomes of VRAM versus thigh flaps for immediate reconstruction of pelvic and perineal cancer resection defects. *Plast Reconstr Surg*. 2009;123:175–183.

### Lymphaticovenous Bypass for Lymphedema Prevention in Melanoma Patients

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**PURPOSE:** Extremity lymphedema is a feared sequela of axillary or ilioinguinal lymph node dissection (LND). In traditional LND, no effort is made to preserve or restore upper or lower extremity lymphatic flow. We hypothesized that prophylactic lymphaticovenous bypass (LVB) could be a reproducible technique to preserve functional lymphatic flow following axillary and ilioinguinal LND in melanoma