Co-Authors: Deokyeol Kim, MD; Matthias Waldner, MD; Wensheng Zhang, MD, PhD; Alan Zahorchak, MS; Marta Minervini, MD; Kia M. Washington, MD; Mohamed Ezzelarab, MD; Mario G. Solari, MD; Angus W. Thomson, PhD

Affiliation: University of Pittsburgh, Pittsburgh, PA

BACKGROUND: Vascularized composite allotransplantation (VCA) is a clinical reality with over 80 hand and 20 facial transplants to date globally.1 Although costimulation blockade with CTLA4-Ig (belatacept) and rapamycin together with bone marrow transplantation-based therapy has shown encouraging results in solid organ transplantation, its efficacy has remained unclear in VCA, especially without donor bone marrow components. The aim of this study was to evaluate whether belatacept and rapamycin with or without short-term tacrolimus, a calcineurin inhibitor, could prolong allograft survival in a novel major histocompatibility complex (MHC)-mismatched swine VCA model that did not contain donor bone tissue.

METHODS: A total of seven transplants were performed in MGH mini-swine across a full-MHC mismatch and were assigned into control and experimental groups. Vertical rectus abdominis musculocutaneous (VRAM) composite flaps were transplanted on one side of the recipients’ necks. Control animals were treated with rapamycin and belatacept immediately after the surgery. In the experimental groups, tacrolimus was administered from postoperative days 0–13, followed by rapamycin and belatacept, which were started on day 0 or 7. Allograft survival was compared among the groups by clinical assessment and histological analysis.

RESULTS: Six allografts survived immediately after transplantations and one technical failure was noted due to arterial insufficiency. Vascular characteristics and ischemic time were similar to an established hind-limb transplantation model. In the control group (no tacrolimus), allografts reached acute rejection Grade I by day 9 after transplant and were fully rejected by day 20. In the experimental groups (tacrolimus), allografts reached Grade I rejection on day 33 and were fully rejected by day 59.

CONCLUSION: Short-term tacrolimus and delayed belatacept/rapamycin therapy offers promise to delay early acute rejection and prolong allograft survival in VCA. The VRAM surgical model can be used in various preclinical trials for evaluating strategy to promote donor-specific tolerance without the influence of donor bone marrow components.

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The Extended Perineal Turn over Perforator (PTO) Flap: A Novel Technique for Combined Perineal and Vaginal Reconstruction after Extralevator Abdominoperineal Excision (ELAPE)

Presenter: Maria Chasapi, MD, MRCS

Co-Authors: Ishan Radotra, MBChB, MRCS; Peter Mitchell, MB ChB, MRCS, FRCS (Gen.Surgery); Milind Dalal, BMBS, FRCS Plast

Affiliation: Royal Preston Hospital, Preston

AIM: Posterior vaginal wall (PVW) defects have been traditionally reconstructed with rectus abdominis musculocutaneous flaps or with bilateral Singapore fasciocutaneous flaps.1 Recent evidence support better oncological outcomes by an extralevator abdominoperineal approach, which requires the plastic surgeon to consider alternative options for combined perineal and vaginal reconstruction. The ideal technique reduces donor site morbidity, restores vaginal function and eliminates dead space whilst keeping perineal wound morbidity rates low. This has not been yet addressed in the literature.1

The Perineal Turn Over perforator (PTO) flap is the workhorse flap in our institution for perineal reconstruction after extralevator abdominoperineal excision (ELAPE).2
We describe a case where an extended version of the PTO flap was used to reconstruct a combined perineal and PVW defect, achieving the above principles.

**CASE:** A 60-year-old patient was diagnosed with anal squamous cell carcinoma invading the PVW. She had neo-adjuvant chemo-radiotherapy completed 5 weeks pre-operatively. An ELAPE was performed with en-bloc resection of the PVW creating a complex composite perineal and vaginal defect

**TECHNIQUE:** A perforator of the internal pudendal artery is identified with a handheld Doppler at the inferolateral part of the skin defect. A semilunar area of skin incorporating the perforator at its base is marked along one side of the perineal defect. The marked skin island is incised down to the supra-fascial layer.

The inferior 5 cm of the skin flap is folded inwards and is sutured to the remaining anterior vagina wall in order to create an adequate vagina allowing for future intercourse.

The superior 15 cm of the skin flap is de-epithelised and turned over inwards towards the perineal defect with the perforator as pivot point. The free border of the inverted thick de-epithelised gluteal dermis is then secured to the cut edges of the pelvic muscles acting as an autologous dermal vascularized substitute for the excised muscular pelvic floor whereas the gluteal subcutaneous tissue is used to fill the pelvic dead space. The overlying gluteal skin on both buttocks is advanced by undermining supra-fascially over the gluteal muscles and closed in layers.

**RESULTS:** Surgical time for the combined reconstruction was 69 minutes. There was no flap loss, no wound complications, no perineal pain or perineal hernia during a 28-month follow-up. The patient resumed normal sexual activity 6 months post-operatively.

**CONCLUSION:** The extended version of the PTO flap allows functional restoration of the vagina. It involves minimal dissection, can be performed in prone position and recreates the natal cleft. Its dermal component replaces the excised muscular pelvic floor preventing from perineal hernias, whereas its subcutaneous component obliterates dead space with no donor site morbidity. The versatility of the PTO flap and its extension can be utilised in the reconstruction of other perineal defects.

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**The Impact of the 2010 NY State Breast Cancer Provider Discussion Law on Rates of Discussion and Reconstruction at Public NYC Hospitals**

**Presenter:** Alexandra J. Lin, BA

**Co-Authors:** Yoshiko Toyoda, BA; Rose Fu, MD; Donna Bahroloomi, MD; Paul Kurlansky, MD; Eugene Sidoti, MD; Anitha Srinivasan, MD; Soula Privolos, MD; Jamie P. Levine, MD; Christine H. Rohde, MD, MPH

**Affiliation:** Columbia University Medical Center, New York, NY

**PURPOSE:** In 2010, New York State (NYS) passed the Breast Cancer Provider Discussion Law mandating that breast cancer surgeons discuss insurance coverage of reconstruction and refer to a plastic surgeon, two significant factors found to affect reconstructive rates. Previously, we examined the impact of this law using the NYS Statewide Planning and Research Cooperative System (SPARCS) database, a comprehensive all payer patient data record that was established in 1979 to document patient characteristics, outcomes, and use of the NYS healthcare system. Our results demonstrated an increase in reconstruction rates across all groups and a reversal of previously documented racial and economic disparities. Herein, we analyzed data from four of the largest public New York City (NYC) Health and Hospital Corporation (HHC) hospitals to determine if the same increase in reconstruction rates is reflected in a diverse urban populace with high percentage of publicly insured patients, and whether discussion of breast reconstruction was affected by enactment of the law.

**METHODS:** This study was approved by the Columbia University Medical Center and Biomedical Research Alliance of New York (BRANY) IRBs. We analyzed breast cancer-related surgery data from four NYC HHC hospitals: Bellevue Hospital Center, Jacobi Medical Center, Lincoln...