ovoid template. This marking represents the dimensions of the skate flap to be utilized for nipple reconstruction. A 5 mm central, superior pedicle is marked, the previously marked ovoid is incised, and the flap is elevated from inferior to superior in the mid-dermal plane. Similar medial and lateral elevation towards the central, superior pedicle forms the lateral wings of the flap, which are then wrapped upon themselves and sutured. The tip of the new nipple is often trimmed to avoid a pointed tip. Next, a 2 by 3 cm free areolar graft is crafted from the amputated, native NAC using the previously crafted template and pie-crusted. A larger, central perforation is placed in the graft to accommodate the reconstructed nipple, and the graft is then inset and dressed with a bolster.

RESULTS: Fifty trans men underwent top surgery with this technique. Average operative time was 2 hours and 59 minutes. Average right- and left-sided mastectomy specimen weights were 629.73 and 625.86 grams, respectively. Average overall mastectomy specimen weight was 627.80 grams. Average length of hospital stay was 0.96 days; 92% of patients spent 1 night in the hospital, 6% of patients spent 0 nights, and 2% of patients spent 2 nights in the hospital, respectively. Average follow-up was 19.02 months (Range: 12.47–32.07 months).

Five patients (10%) experienced complications, most commonly seroma formation (4%; n = 2). One patient developed a hematoma (2%), requiring operative intervention while one patient (2%) developed cellulitis, successfully treated with oral antibiotics, and one patient experienced suture granuloma (2%). Twenty-eight patients (56%) underwent secondary revisions, including scar revision (56%), liposuction (10%), and fat grafting (2%). Overall, 10% of reconstructed NACs (n = 5) underwent revision to adjust size, projection, or symmetry.

CONCLUSION: The use of a modified nipple flap and free areolar graft in transgender chest wall reconstruction for trans men allows for flexible, component construction of the male NAC, in a safe and effective manner.

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PURPOSE: In the United States, breast cancer is the most common cancer diagnosis with treatment often combining surgery with adjuvant radiation (XRT). While XRT is effective as a cancer therapy, it has detrimental effects on the surrounding healthy tissues. This collateral damage leads to reconstructive complications limiting patient candidacy for expander-based reconstruction. Radiation’s direct damage to the structural organization of dermal type I collagen can lead to impairment of cutaneous strength and elasticity. To assuage the pernicious effects of radiation, we utilized the cytoprotectant amifostine (AMF) as a preemptive therapeutic with the objective of improving dermal type I collagen organization within a murine model of breast reconstruction.

METHODS: Female Sprague-Dawley rats (n=15) were divided into 3 groups (n= 5 per group): 1) Expander placement (Control); 2) Expander placement + XRT (XRT); 3) Expander + AMF +XRT (AMF). Expanders were surgically placed in a sub-musculocutaneous plane in the right upper back with a subsequent 15 cc fill volume. Control specimens received no additional intervention, XRT group received a breast cancer human-equivalent dose of radiation, and the AMF group received AMF 30 minutes prior to each radiation dose. After a 20 day recovery period skin was harvested, sectioned, and Atomic Force Microscopy (AFM) was used to acquire 10x10 um images of type I collagen dermal sheets. Image J analysis was utilized to quantify AFM images with respect to dermal collagen organizational structure.

RESULTS: Image J evaluation of the XRT group demonstrated a significant increase in skin ulceration when compared to the Control group (p=0.001). Pre-radiation treatment with AMF was associated with improved collagen sheet organization when compared to the XRT group (p=0.001). AMF images of the XRT group exhibited a significant increase in collagen fibril disorganization when compared to Control (p=0.001) and AMF (p=0.001). No statistical differences were identified between Control and AMF groups (p=0.122) as both had similar parallel, organized collagen sheets.

Mitigation of Radiation Induced Type I Collagen Dermal Disorganization Utilizing Amifostine in a Murine Breast Reconstruction Model

Presenter: Alicia E. Snider, MD

Mitigation of Radiation Induced Type I Collagen Dermal Disorganization Utilizing Amifostine in a Murine Breast Reconstruction Model

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CONCLUSION: Pre-treatment with AMF resulted in a significant improvement in type I collagen fibril organization in a murine model of expander-based breast reconstruction. Type I collagen organization directly impacts the architectural integrity of skin as well as providing the substrate environment for cell proliferation for proper wound healing. Retaining this type I collagen sheet structure is paramount to facilitating improved reconstructive outcomes. If these findings translate into clinical practice then utilizing AMF has the potential to reduce radiation associated type I collagen dermal change. More broadly, this therapeutic has potential to increase candidacy for breast reconstruction, improve surgical outcomes, and enhance quality of life for breast cancer patients undergoing reconstruction.

Umbilical Ablation During Abdominal Flap Harvest Decreases Donor Site Complications

Presenter: Mark Fisher, MD

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PURPOSE: Donor site complications are a significant source of morbidity for patients undergoing deep inferior epigastric artery perforator (DIEP) flap reconstruction. Most studies have focused on post-operative hernias and bulges; however, there is a paucity of data regarding minimizing post-operative wound healing and infection rates. We hypothesize that ablation of the umbilicus at the time of DIEP harvest decreases the incidence of umbilical and abdominal wall complications by avoiding additional skin flap undermining and incisions.

METHODS: A retrospective review was performed of all (119) patients who underwent DIEP harvest without umbilical ablation. Pre-operative risk factors, intra-operative factors, and post-operative complications were compared.

RESULTS: The umbilical ablation group had significantly higher BMI (30.9 vs 27.4, p=<.001), presence of umbilical scar (20.9% vs 5.3%, p=<.001), umbilical hernia (82.9% vs 8.5% p=<.001), ventral hernia (23.9% vs 1.7%, p=<.001), and rectus diastasis (10.3% vs 2.6%, p=0.016). There were no significant differences in incidence of smoking, diabetes mellitus, hypertension, prior abdominal scar, or midline abdominal scar. The umbilical ablation group had a significantly lower rate of post-operative abdominal wound dehiscence and skin loss (11.1% vs 22.2%, p=0.023) and overall donor site complication rate (24.8% vs 39.3%, p=0.017). There was no significant difference in incidence of partial-thickness skin loss, cellulitis, seroma, or abscess. Mean follow-up time was 1.8 years.

CONCLUSION: These data reveal that umbilical ablation significantly decreases the incidence of complications, including abdominal dehiscence and skin loss, even in the setting of increased risk factors for poor wound healing. This decreased incidence of abdominal complications is likely due to avoidance of umbilical incisions and decreased abdominal skin flap undermining, both resulting in less interruption of skin blood supply. We conclude that umbilical ablation is a viable option to minimize donor site complications and may be especially useful in high-risk patients.

AESTHETIC SESSION 2

Brazilian Butt Lift Performed by Brazilian Plastic Surgeons: Reports of an Expert Opinion Survey

Presenter: Alexandra Conde-Green, MD

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