D134. COMPARISON OF NIPPLE-SPARING MASTECTOMY VERSUS SKIN-SPARING MASTECTOMY IN BILATERAL IMPLANT-BASED BREAST RECONSTRUCTION WITH UNILATERAL RADIOTHERAPY: A MATCHED COHORT STUDY

Ricardo Ortiz, MD, Erin Taylor, MD, Nicholas Leung, BS, Bradford Sokol, BS, Emily H. Lafleur, PA-C, Tara Hashemian, MS, Tanujit Dey, PhD, Yoon S. Chun, MD

Brigham and Women's Hospital, Boston, MA, USA.

PURPOSE: Nipple-sparing mastectomy (NSM) preserves natural nipple-areola complex and entire native breast skin with a goal of better cosmetic outcomes in breast reconstruction. In bilateral tissue expander (TE)/implant-based reconstruction requiring unilateral post-mastectomy radiotherapy (PMRT), progressive radiation-induced fibrosis can lead to increasing nipple asymmetry with cosmetic dissatisfaction. Thus, PMRT may ultimately negate the intended positive cosmetic value of NSM compared to skin-sparing mastectomy (SSM). This study compares, 1) surgical complications, 2) patient satisfaction, and 3) aesthetic outcomes between NSM vs. SSM in bilateral implant-based reconstruction with unilateral PMRT.

METHOD: This retrospective matched cohort study included consecutive NSM patients with TE/implant breast reconstruction + unilateral PMRT matched 1:2 to SSM group. All patients completed PMRT and TE exchange to implants. Demographics, oncologic stage, co-morbidities, and complication data were collected. Patient satisfaction was evaluated by BREAST-Q. Aesthetic outcome was assessed by blinded reviewers with a 5-point Likert scale.

RESULTS: Among 58 patients who underwent bilateral TE/implant reconstruction with unilateral PMRT, 17 NSM patients were matched to 41 SSM patients by age, BMI, and co-morbidities. No significant difference existed between overall surgical complications (p=0.2) and BREAST-Q questionnaire scores. The average adverse effects of radiation score was higher in the NSM. Preliminary aesthetic outcomes demonstrated higher total average aesthetic score in SSM compared to NSM.

CONCLUSION: Although NSM is generally associated with better cosmetic outcome compared to SSM, it has far less impact in bilateral implant-based breast reconstruction with unilateral PMRT. This may be related to the additional negative post-radiotherapy impact on nipple asymmetry.

D135. WITHDRAWN

D136. SPARE THE LIMB AND SPOIL THE OUTCOME: WHY DO SOME OSTEOSARCOMA PATIENTS PURSUE REVISION AMPUTATION AND DOES THE AMPUTATION IMPROVE THE OUTCOME?

Alexandra Polovneff, BS[1], Vienne Seitz, BS[1], Janet Panoch, PhD[2], Gwendolyn Hoben, MD, PhD[1]

[1]Medical College of Wisconsin, Wawatosa, WI, USA, [2]Indiana University School of Medicine, Indianapolis, IN, USA.

PURPOSE: There is tremendous emphasis on limb sparing surgery (LSS) in osteosarcoma. However, a substantial number of LSS patients choose to transition to an amputation-type revision, including rotation-plasty and turn-up plasty. The purpose of this study was to determine motivating factors for revision and whether those interventions better address the motivating factors.

METHODS: We identified the most popular public Osteosarcoma Facebook group and selected posts from a 12 month period regarding surgical interventions. We used iterative inductive and deductive thematic analysis to collect qualitative data

RESULTS: 378 comments from the Osteosarcoma and Ewing's Sarcoma Support Group were analyzed. Three themes emerged: (1) There is a lack of options presented to patients seeking treatment of osteosarcoma. (2) Many patients were unsatisfied and regretted their decision to undergo LSS because of numerous revisions, physical limitations, and chronic pain. (3) Many patients treated primarily or secondarily (following LSS) with rotation-plasty were satisfied with their lifestyle outcomes and mentioned improved mobility, range of motion, and limited chronic pain.

CONCLUSION: LSS can result in significant morbidity and despite sparing the limb, some patients are choosing to pursue amputation. Further work will need to examine amputation interventions to ensure that they can successfully address the problems identified with LSS, including mobility and pain. Prior concerns with amputation, including phantom limb pain, can now be addressed with targeted muscle reinnervation and regenerative peripheral nerve interfaces. Moreover, these options may deserve more discussion in the setting of the primary surgery.

D137. EFFECT OF ELEVATED BODY MASS ON SURGICAL COMPLICATIONS IN PATIENTS UNDERGOING BODY CONTOURING AFTER MASSIVE WEIGHT LOSS

Pooja Humar, BS[1], Joseph Mocharnuk, BA[1], Anne Glenny, BA[2], Fuat Baris Bengur, MD[2], Malke Asaad, MD[2], Joshua David, MD[2], Elizabeth Moroni, MD[2], Jeffery Gusenoff, MD[2], J. Peter Rubin, MD, MBA[2]

[1]University of Pittsburgh School of Medicine, Pittsburgh, PA, USA, [2]University of Pittsburgh Medical Center, Pittsburgh, PA, USA.

PURPOSE: Massive weight loss can result in whole-body deformities that often are addressed with body contouring. However, even after weight loss, many patients have residual obesity. In this study, we aim to determine the effect of BMI on post-bariatric reconstructive surgery complications.

METHODS: Patients undergoing body contouring from 2002-2018 after massive weight loss (≥50 pounds) were retrospectively reviewed. Variables of interest include pre and post weight loss BMI, post-operative complications, and procedures per case.

RESULTS: In this cohort, 942 massive weight loss patients underwent 1,063 cases involving 1,814 procedures. 884 patients were female while 58 were male. Mean pre-weight loss BMI, or max BMI, was 51.9 ±9.8 while mean post weight loss BMI was 30.5 ±6.0. For all cases, an increased maximum BMI ($p=0.006$), but not current BMI, was associated with a higher rate of post-operative complications. Increased current BMI significantly amplified the risk of post-operative fat necrosis ($p<0.01$) while elevated maximum BMI increased the risk of seroma ($p<0.01$) and wound infection ($p<0.05$). In patients with multiple procedures (n= 502), increased maximum and current BMI were associated with higher risk of seroma formation ($p<0.05$), but neither was associated with risk of seroma for single procedures cases (n=561).

CONCLUSION: Both pre and post weight loss BMIs play a role in complication rate and type, while only max BMI plays a role in multiple procedure cases. These findings indicate that pre and post weight loss BMI should be assessed, in addition to number of procedures, to optimize outcomes after body contouring.

D138. A 28-YEAR SINGLE INSTITUTIONAL EXPERIENCE OF COMPLETE REDUCTION OF EXTREMITY LYMPHEDEMA USING SUCTION ASSISTED LIPECTOMY

Hakan Brorson, MD, PhD

Department of Clinical Sciences, Lund Unversity, Malmo, Sweden.

PURPOSE: Absent lymph flow and chronic inflammation leads to excess subcutaneous adipose tissue deposition. Chronic non-pitting lymphedema does not respond to conservative treatment or microsurgical procedures because they do not target the adipose tissue. Removing the adipose tissue using suction assisted lipectomy (SAL) seems thus to be a logic treatment strategy.

METHODS: Arms: 190 women, mean±SEM age of 62±0.8 years, with a duration of arm swelling of 8.6±0.5 years underwent SAL. Age at breast cancer operation, interval between breast cancer operation and lymphedema start, and duration of lymphedema were 51±0.8 years, 2.8±0.4 years, and 8.6±0.5 years respectively. Legs: 128 patients with a mean age of 49±1.4 years and with a duration of leg swelling of 13±0.9 years underwent SAL. There were 64 primary (PL) and 64 secondary lymphedemas (SL) following cancer therapy. Age at cancer treatment and interval between cancer treatment and lymphedema start were 2.5±0.7 years and 42±1.7 years respectively. Age at onset of PL was 10 years.

RESULTS: Arms: Preoperative mean excess volume was 1404±52 ml. Postoperative reduction was 104±2.0% at 3 months and 117±2.1% at 1 year, and more than 100% during 28 years' follow-up. Legs: Preoperative excess volume was 3580±153 ml. Postoperative reduction was 82%±2.3% at 3 months and 101±2.3% at 1 year, and more than 100% during 23 years' follow-up.