Principles and Algorithm for the Microsurgical Treatment of Unstable Keloids on the Trunk after Burn Injury

Mathias Tremp, MD; Shao Qing Feng, MD, PhD; Dirk J. Schaefer, MD; Peiru Min, MD; Daniel Kalbermatten, MD, PhD; Yi Xin Zhang, MD, PhD

INTRODUCTION: Unstable keloids are one of the most frustrating clinical problems in wound healing and the pathogenesis remains largely unknown.¹ To date, little is known in the literature about the microsurgical management of unstable and middle-sized keloids on the trunk, and a clear consensus is lacking.² Perforator flaps are thin and pliable, have a robust blood supply, potentially release the scar-site tension effectively and may provide an outcome with well-matched color, thickness, and texture.³,⁴ In this study, we provide a versatile algorithm by using various pedicled and free perforator flaps for the treatment of keloids on the trunk.

MATERIALS AND METHODS: Patients with a history of multiple treatments of middle-sized keloids on various regions of the trunk were included. Color Doppler ultrasound (CDU) and multidetector-row computed tomographic angiography (MDCTA) were performed preoperatively. Depending on the location of the keloid, the following flaps were used: superficial circumflex iliac artery perforator (SCIP) flap, internal mammary artery perforator (IMAP) flap, superior epigastric artery perforator (SEAP) flap, anterior intercostal artery perforator (AICAP) flap, deep inferior epigastric artery perforator (DIEP) flap and anterolateral thigh (ALT) flap.

RESULTS: Between June 2013 to June 2015, 29 patients (15 male and 14 females) with a mean age of 41 ± 15 years were treated. Totally, we performed 5 free SCIP flaps, 2 pedicled SCIP flaps, 8 IMAP flaps, 6 SEAP flaps, 3 AICAP flaps, 4 DIEP flaps and 1 ALT flap. The mean flap size was 83 ± 36 cm² and the mean flap thickness was 14.8 ± 5 mm. One partial distal necrosis occurred after a pedicled AICAP reconstruction, which healed conservatively. After a mean follow-up of 5 ± 3 months, all surviving flaps showed excellent thickness, texture and color match. Importantly, there was no need for secondary debulking surgery. The donor site healed well after primary closure in all patients.

CONCLUSION: We successfully applied various free and pedicled perforator flaps for the treatment of unstable keloids on the trunk. Based on our experience, we provide a useful and reliable algorithm in order to achieve the best possible outcome.

No disclosures

REFERENCES:
1. Ogawa R, Chin MS. Animal models of keloids and hypertrophic scars. J Burn Care Res 2008;29(6):1016–1017
2. Wang J, Min P, Grassetti L, et al. Preliminary Outcomes of Distal IMAP and SEAP Flaps for the Treatment of Unstable Keloids Subject to Recurrent Inflammation and Infections in the Lower Sternal and Upper Abdominal Areas. J Reconstr Microsurg 2015
3. Hong JP, Choi DH, Suh H, et al. A new plane of elevation: the superficial fascial plane for perforator flap elevation. J Reconstr Microsurg 2014;30(7):491–496
4. Koshima I, Soeda S. Inferior epigastric artery skin flaps without rectus abdominis muscle. Br J Plast Surg 1989;42(6):645–648

Surgical Practice Pearls Session

Transgender Subcutaneous Mastectomy for Gender Affirmation: A Single Surgeon’s 5-Year Experience

Jennifer A. Cameron, MD, MPH; Andrew J. Cleland, MD; Robert L. Marcaccini BS; Bruce L. Cunningham, MD, MS; Marie Clair Buckley, MD

INTRODUCTION: As insurance coverage changes, subcutaneous mastectomy for female to male gender confirmation is becoming an increasingly popular surgical procedure.¹ At our institution, we have an extensive history of providing transgender health care and recognize the many challenges to achieving a masculine looking chest: pectoralis muscle shape, skin laxity, location of the inframammary fold, lateral thoracic rolls, nipple size and characteristics. The goal of our study was to critically evaluate our surgical approach by analyzing the aesthetic and clinical outcomes of subcutaneous mastectomies performed for female to male gender confirmation.

MATERIALS AND METHODS: Following IRB approval, a retrospective chart review was performed to identify patients having undergone bilateral subcutaneous mastectomies for gender confirmation. Per our standard protocol, all patients had a preoperative diagnosis of gender dysphoria documented by a licensed mental health practitioner, met World Professional...
Association for Transgender Health criteria, and many were advised to have a preoperative mammogram. Demographics and outcomes data were collected and analyzed. Aesthetic results were evaluated by a blinded plastic surgeon.

RESULTS: From 2010–2015, 97 patients were identified who met our criteria, for a total of 194 mastectomies. The average age was 29 years (range 15–61), average BMI was 30 (range 20–54), and average specimen weight was 708 grams per breast (range 86–2702). The vast majority received full thickness nipple grafts (170/194). Eighty (82%) patients were on perioperative Testosterone. The average follow up was 98 days (range 0-1288). The aesthetic outcomes improved with surgeon experience. We had a total of 5 major complications which led to secondary surgical procedures: 2 hematomas requiring operative evacuation, and 3 seromas necessitating drain placement. One patient was diagnosed with breast cancer on screening mammography and was excluded. Minor complications included hypertrophic scarring, standing cone deformities, and pigmentation changes of the nipple grafts. There were no deaths or perioperative venous thrombosis.

CONCLUSION: Despite the recent increase in mastectomies performed annually, there is still no consensus on surgical method. With appropriate preoperative screening, patient selection and surgical technique, bilateral subcutaneous mastectomies for female to male gender confirmation surgery can be a safe, highly satisfying procedure. We wish to share our pearls (preoperative marking, patient positioning, DVT prophylaxis, surgical approach, nipple placement, etc.) to attain functional and cosmetically appealing outcomes.

DISCLOSURE/FINANCIAL SUPPORT: We have nothing to disclose.

REFERENCES:
1. Green, J. Transsexual Surgery May Be Covered By Medicare. LGBT Health, 2014 Dec; 1(4): 256–8.
2. World Professional Association for Transgender Health. Standards of Care. Elgin, IL: WPATH; 2011.

Revisiting Buttock Implant Placement-Tilt Your Implants, Enhance Your Shaping Results

Alexander Aslani, MD, PhD

SUMMARY: Most surgeons with clinical interest in buttock surgery will favour fat grafting as the gold solution in buttock surgery. While we share this view, in our experience good results are reserved to patients with favourable buttock shapes before surgery and BMI values around 26–30.

If patients are thin good fat grafting results are still possible but surgeons may often encounter some disappointment with the size achieved. For those patients, implants ideally supplemented by moderate volume fat grafting may yield more patient satisfaction. We present our modification in implant placement with supplementary fat grafting as a pearl to get more impressive results out of buttock surgeries on female patients.

METHODS: Our gold standard for patients with a BMI less than 26 is to combine intramuscular placement of anatomical implants supplemented by fat grafting wherever possible.

During the last years, we have modified our technique from vertical placement of the implants, as recommended by the manufacturer, towards a rotation parallelizing the gluteus muscle fibres. The technical challenge in comparison to vertical implant placement is to avoid violation of the lateral gluteus muscle border.

In all cases presented, Waterjet assisted fat transfer was added before placement of the implants, with focus on the midbuttock area.

DISCUSSION: This is an adjustment with a learning curve, but the result is a much more pronounced enhancement of the hip area and widening of the inferior frame, a feature highly desired by most patients seeking buttock augmentation surgery.

CONCLUSION: Standard industry recommended vertical placement of anatomical buttock implants does not exhaust the potential of these devices, since the volume addition to the hips is limited. We have found that our adjustment with rotation of the implant rewarded us with much more rewarding results on the hips of operated patients.

Autologous Fat Transfer for Augmentation Mammaplasty and Gluteal Reshaping, a Video Presentation

Alberto M.L. Caldeira, MD, PhD; Walter Marrou, MD

INTRODUCTION: Autologous fat transfer is a procedure that has attracted many surgeons in the last few years. Adipose cell aspirate is a source of mesenchymal stem cells which are similar to those within the bone marrow, the most