was 180 days (SD 154.41). When studying potential risk factors for amputation between the amputation vs non-amputation cohorts, none of the following, relevant, variables were found to be statistically significant: Presence of peripheral vascular disease (PVD) (50.0% in the amputation cohort vs 35.6% in the non-amputation cohort, p=0.31), tobacco use (56.3% vs 48.9%, p= 0.61), mean Hemoglobin A1C (7.6 +/- 2.4 vs 7.3 +/- 2, p=0.74), presence of osteomyelitis/chronic infection (93.8% vs 80.0%, p=0.20), preoperative hemoglobin (9.9 +/- 0.9 vs 10.2 +/- 1.1, p=0.41), and pre-operative creatinine (0.9 +/- 0.3 vs 1 +/- 0.5, p=0.38).

CONCLUSION: Interestingly enough, potential risk factors for amputation including PVD, tobacco use, renal disease and HgbA1 were not found to be statistically significant when comparing diabetic patients who underwent lower extremity amputation following lower extremity free tissue transfer compared to those who did not undergo amputation. Given the variable outcomes among patients undergoing free tissue transfer for lower extremity limb salvage, the decision to perform these procedures needs to be evidence-based. Patient selection is crucial in the initial decision for limb salvage, and based on the above data, more studies should be performed to help determine who are appropriate candidates for salvage with free tissue transfer.

Robotically Harvested Peritoneal Flaps As a Well-Vascularized Adjunct to Penile Inversion Vaginoplasty

Presenter: Adam Jacoby, MD

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PURPOSE: Penile inversion vaginoplasty (PIV) is the standard operation for genital reconstruction in transwomen. Despite usually providing an excellent aesthetic result, the technique can be complicated by vaginal stenosis and inadequate depth, particularly in transwomen with limited penile and scrotal tissue. Vascularized peritoneal flaps have been used to augment vaginal depth in neovaginal creation in patients with congenital vaginal agenesis. Here, we review our experience with the novel application of peritoneal flaps in penile inversion vaginoplasty in transwomen, to augment the neovaginal apex with well-vascularized tissue.

MATERIALS AND METHODS: Between 2017 and 2018, 20 male-to-female patients were identified who underwent a robotically assisted PIV using peritoneal flaps. In brief, approximately 5cm by 5cm peritoneal flaps are raised from the anterior rectum and posterior bladder to create the apex of the neovagina and serve as an attachment for inverted penile skin and scrotal skin graft. Patient demographics, medical comorbidities, intra-operative details, peri-operative complications, and neovagina measurements served as primary outcome measures.

RESULTS: In our cohort of 20 patients, average age at time of surgery was 33.5 +/- 11.2 years. Average length of procedure was 319.3 +/-41.6 minutes and the average inpatient stay was 5 days. Average length of follow up was 54.6 +/- 42.1 days and at most recent follow up, vaginal depth and width were measured to be 12.83 +/- 1.1 cm and 2.85 +/- .3 cm respectively. The peritoneal flap added an additional 5 cm of depth. There were no complications related to peritoneal flap harvest.

CONCLUSION: Penile inversion vaginoplasty remains the gold standard for primary genital reconstruction in transwomen. Neovaginal depth can be limited by available donor tissue. With increased use of puberty blockade, we believe that there will be an increase in women presenting with limited natal tissue. While intestinal flaps or extragenital skin grafts have been used when there is inadequate penile and scrotal skin, there can be considerable donor site morbidity. Peritoneal flaps provide an alternative technique for increased neovaginal depth, creating a well-vascularized apex without additional donor morbidity.

Complications and Patient Reported Outcomes in Male to Female Vaginoplasty Where We Are Today a Systematic Review and Meta Analysis

Presenter: Kian Adabi, BA

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PURPOSE: There is an increased need for evidence-based practices in male to female transgender (MtF) vaginoplasty. While there are a multitude of surgical techniques, there is a paucity of data comparing these procedures. A systematic review of retrospective studies on the outcomes of MtF vaginoplasty was conducted to minimize surgical complications, and improve patient outcomes for transgender patients.

METHODS: Applying the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA), a comprehensive search of several databases from 1985 to November 7th, 2017 was conducted. The databases included PubMed, Ovid MEDLINE Epub Ahead of Print, Ovid Medline In-Process & Other Non-Indexed Citations, Ovid MEDLINE, Ovid EMBASE, Ovid Cochrane Central Register of Controlled Trials, and Web of Science. The resulting publications were screened, and those that met our specified inclusion/exclusion criteria were analyzed. The DerSimonian and Laird random effects model was used to pool complications and patient-reported outcomes.

RESULTS: A total of 471 articles were initially identified, of which 46 met our eligibility criteria. A total of 3716 cases were analyzed. Overall incidence of complications included 2% (95% CI 1% to 6%) fistula, 14% (95% CI 10% to 18%) stenosis and strictures, and 1% (95% CI 0% to 6%) tissue necrosis, and 4% (95% CI 2% to 10%) prolapse. Patient reported outcomes included a satisfaction rate of 93% (95% CI 79% to 100%) with overall results, 87% (95% CI 75% to 96%) with functional outcomes, and 90% (95% CI 79% to 98%) with aesthetic outcomes. Ability to have orgasm was reported in 70% (95% CI 54% to 84%) of patients. The regret rate was 1% (95% CI 0% to 3%). The length of the vaginal cavity was 12.5 cm (95% CI 6.3 cm to 14.4 cm).

CONCLUSION: Multiple surgical techniques have demonstrated safe and reliable means of male to female vaginoplasty with low overall complication rates, and with a significant improvement in patient’s quality of life. Studies utilizing different techniques in a similar population and standardized patient-reported outcomes are required to further analyze outcomes among the different procedures and to establish best-practice guidelines.

Comparison of Radial Forearm Flap and Antero-Lateral Thigh Flap Phalloplasty: Analysis of 413 Cases

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INTRODUCTION: This study aims at comparing outcomes of anterolateral thigh (ALT) flap phalloplasty and of radial forearm flap (RFF) phalloplasty. ALT flap phalloplasty is gaining increasing popularity in gender confirming surgery. This is the largest series comparing ALT flap Phalloplasty and RFF phalloplasty.

MATERIALS AND METHODS: Four-undred-thirteen phalloplasties were performed at a single institution between 2004 and 2016 (320 RFF, 93 ALT). Flap survival, urinary complications (fistulae and strictures), outcomes of erectile and testicular implants, number of secondary procedures required at the penis and at the donor site. PROMs were evaluated as well by administering a questionnaire to investigate QoL and aesthetic outcomes. Mean follow up was 51 months in the RFF group and 40 months in the ALT group.

RESULTS: Rates of secondary procedures in the penis (45 vs 15%) and in the donor site (16 vs 5%) were significantly higher in the ALT group compared to the RFF group. In the RFF group there were significantly higher early fistula rates (31.6 vs 15.2%) and significantly higher rates of patients wearing an implant (65.6 vs 42%). No statistically significant differences were found in the rates of fistulas requiring surgery, stricture rates, flap revision rates and prosthesis-related complications rates. Even PROMs (responders: 37 RFF and 17 ALT patients) showed no statistically significant difference.

CONCLUSION: There seems to be no significant differences in terms of outcomes when comparing ALT phalloplasty is a valuable alternative to RFF phalloplasty that allows to avoid the forearm scar. As a result, ALT phalloplasty can be considered an effective alternative to RFF phalloplasty for those patients who want to avoid the forearm scar and accept higher chances of secondary procedure to improve the penis and the donor site.

Is the Medial Sural Artery Perforator Flap A New Workhorse Flap? A Systematic Review and Meta-Analysis