Patients with VTE were more likely to be ≥ 50 years of age (OR: 3.6, CI: 1.1–11.8, p=0.05), hypertensive (OR: 4.2, CI: 1.2–14.2, p=0.03), and diabetic (OR: 4.0, CI: 1.1–14.3, p=0.05). The limb salvage rate in patients with VTE was 100%. There were no flap losses in patients with VTE and the overall flap complication rate was similar between groups (p = 0.26). However, 1 patient died as a result of PE and another patient experienced an ischemic stroke from a paradoxical embolism.

CONCLUSION: This study gives preliminary evidence that VTE may not increase the risk of amputation or flap loss in lower extremity reconstruction, although anticoagulation prophylaxis and treatment are critical due to significant morbidity and mortality associated with VTE.

Evaluation of Stem Cell Populations and Cost Effectiveness of Fat Grafting Using Different Minimally Manipulated Techniques

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**RATIONALE:** Autologous fat grafting is a highly used minimally manipulated technique in plastic and reconstructive surgery. Several fat-processing techniques have been described such as centrifugation, Telfa-rolling, blue-towel, sieve and decanting method. Although studies have compared processing methods, no studies have evaluated the processing time, cost and stem cell potency of the different methods.

**OBJECTIVE:** Here we describe a study where we compare the volume of fat obtained, processing time, cost, degree of cell viability and adipose derived stem cell (ADSC) potency of adipose tissue processed using several minimally manipulated fat-processing techniques adipose tissue.

**METHODS:** Human adipose tissue was harvested via tumescent liposuction technique and processed using centrifugation, Telfa-rolling, blue-towel, sieve and decanting methods. Processed tissue was placed into culture using ADSC cell culture methods to allow cells to grow. Cells were tested for doubling times, cell surface marker analysis and differentiation potential. In addition, we assess volume and mass of fat obtained through each individual technique.

**CONCLUSION:** All methods resulted in the isolation of adipose derived stem cells capable of undergoing adipo-, osteo- and chondrogenesis. Telfa-rolling and centrifuge methods resulted in the highest number of cells immediately after processing, and reached a cell density of 20 x10⁶ within 6 days of tissue processing. In addition, it was found that volume of processed fat obtained through telfa technique was approximately 33–50%, with only centrifuge and decanting resulting in greater volumes. Telfa-rolling is the most cost effective minimally manipulated method of processing adipose tissue that results in the highest ADSC isolation. This study supports larger clinical studies to evaluate the clinical benefits of using the Telfa-rolling method as the preferred minimally manipulated technique used in fat grafting.

New Treatment of Erectile Dysfunction Post-Radical Prostatectomy Using Nerve Grafts and End-to-Side Neuorraphies

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**INTRODUCTION:** Radical prostatectomy (RP) for prostate cancer treatment, although effective, can lead to severe erectile dysfunction. This study describes a new technique, which aims to reestablish the nerve stimulus in penile erection via two sural nerve graft bridges, bilaterally.

**OBJECTIVE:** To study a novel penile reinnervation technique between the femoral and cavernous corpus and dorsal penile nerves via sural nerve grafts and end-to-side neurorraphies.
METHODS: Ten patients with a mean age of 60.3 ± 4.8 years (54 – 68) who had undergone RP at least two years previously were submitted to penile reinnervation. Four patients had undergone radiotherapy following RP. All patients reported satisfactory sexual activity prior to RP. The surgery involved bridging of the femoral nerve to the dorsal nerve of the penis and the inner part of the corpus cavernosum with sural nerve grafts and end-to-side neurorraphies. Patients were evaluated using the International Index of Erectile Function (IIEF) questionnaire, Pharmacopenile Doppler Ultrasonography (PPDU) at pre-op, 6, 12 and 18 months post-op, and by a clinical evolution of erectile function (CEEF) questionnaire during 36 months.

RESULTS: IIEF presented improvements for erectile dysfunction, satisfaction with intercourse and general satisfaction. Evaluation of PPDU velocities did not reveal any difference between right and left sides or between the allocated time periods. The introduction of nerve grafts did not cause fibrosis of the corpus cavernosum, nor did it lead to a reduced penile vascular flow. Regarding CEEF, sexual intercourse began after 13.7 months, with frequency of sexual intercourse (SI) varying from once daily to once monthly.

CONCLUSION: Sixty percent of cases achieved full penetration, on average, thirteen months after reinnervation surgery. One may observe that patients previously submitted to radiotherapy presented slower recuperation of erectile function. One may conclude that penile reinnervation surgery is a viable technique, with effective results, and could offer itself as a new treatment modality for erectile dysfunction following radical prostatectomy.

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INTRODUCTION: Given the documented benefits of the stromal vascular fraction (SVF) in other fields of plastic surgery,1,2 and the lack of studies on acute burns,3 we wanted to investigate the clinical efficacy and safety of the SVF in treating intermediate-deep burns.

METHODS: We enrolled 10 consecutive patients affected with thermal intermediate-deep burns in symmetrical body sites and comparable TBSA involved. For each patient the two areas were defined as study and control following randomization. The SVF was applied over the study area after debridement and then covered by a hyaluronic acid scaffold. The control area was covered with the scaffold. Both areas were left untouched for 15 days, at which time point they were first blindly assessed by histogram planimetry wound area tracing.4 Further assessments were made at 20, 25, 30 and 180 days. If any of the study or control areas had not shown signs of significant healing by the 20 days-follow up, they were covered with a split-thickness autologous skin graft. At 15 days biopsies were taken from both the study and control areas to assess for CD31 expression by immunohistochemistry. Vancouver Scar Scale and patient satisfaction VAS were also recorded at the 180 days follow up. Adverse events and complications were monitored at each visit.

RESULTS: Each treated area showed presence of islands of reepithelization and subtotal healing at 15 days, and complete healing at 30 days in all cases. Each control area failed to heal spontaneously and underwent coverage with a split thickness autologous skin graft. CD31 immunohistochemistry examination to assess for angiogenesis showed an increased mean vascularity in the case areas when compared to the control ones. No adverse events were recorded.

CONCLUSION: Our experience indicates a significant wound healing with the SVF in intermediate-deep burns. Such “spontaneous” healing saves the patient further surgery, which would be instead be needed to cover the defect with a skin graft, and leads to better long term cosmetic outcomes. Therefore an advantage in terms of patient morbidity (less surgery, less blood transfusion needed), quality of life and healthcare costs is easily foreseeable when applying this technique. This is a pilot study with a limited cohort. Further observations will be needed to confirm our results.

Efficacy and Safety of the Stromal Vascular Fraction in Intermediate-Deep Burns. a Randomized Controlled Pilot Study

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