(P = 0.41). Immunotherapy usage was more common in the LVB group at 92.59% compared with the control group at 59.26% (P = 0.0042). Rates of failed immunotherapy (ie, melanoma progression or recurrence during treatment) were 56% and 50% for the LVB and control groups, respectively (P = 0.71). Patients who failed immunotherapy had higher rates of melanoma recurrence at 86.36% than patients who did not at 26.32% (P < 0.0001).

CONCLUSIONS: Prophylactic LVB during CLND does not impact DMFS and RFS in melanoma, which is potentially applicable to all cancers considering the extremely aggressive nature of melanoma. LVB is highly efficacious in treating lymphedema, especially given that the LVB group had considerably larger tumors in affected lymph nodes.

Predicting Microvascular Thrombotic Complications with Thromboelastography and Platelet Mapping: A Preliminary Investigation

Presenter: Jiaxi Chen, MD

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PURPOSE: Recent technical refinements in free-tissue transfer (FTT) have significantly decreased the incidence of complications, yet thrombosis persists as the leading cause of flap failure. Thromboelastography (TEG) analyzes the viscoelastic properties of blood and the addition of platelet mapping provides a comprehensive analysis of a patient’s coagulation potential and postoperative aspirin efficacy. Because aspirin is the most ubiquitous choice for postoperative anticoagulation, evaluating for potential factor contribution to persistent hypercoagulability is paramount. This prospective pilot study utilizes TEG to evaluate perioperative anticoagulation efficacy in patients undergoing FTT as well as predictive parameters for patients with thrombotic complications.

METHODS: 27 consecutive patients with FTT underwent TEG analysis pre- and postoperatively at standardized time points. All patients received postoperative subcutaneous heparin and oral aspirin, and patients with thrombosis additionally received a heparin bolus followed by non-nomogram IV heparin. Two-sample t-tests were conducted for all parameters. Primary assessment included (1) adequate antiplatelet efficacy with aspirin postoperatively and (2) inadequately treated factor contribution in thrombotic versus nonthrombotic patients to assess significance in TEG’s predictive value.

RESULTS: Twenty-seven patients underwent FTT (19 DIEP/ms-TRAM, 3 RFFF, 3 FFF, 1 ALT, 1 LD) from February 2020 to October 2020. Mean age was 56.1 years, mean BMI was 25.1 kg per m², 19 patients were women, 18 patients identified as non-Hispanic White, and 20 patients had private health insurance. Four patients developed intraoperative anastomotic thrombosis with one patient requiring an additional operative return on postoperative day 2. Compared with control cohort of patients who did not develop thrombosis, the thrombotic patients had statistically significant preoperative TEG values: (1) decreased SP time (P < 0.04), (2) decreased R time (P < 0.04), (3) decreased K value (P < 0.05), and (4) decreased LY30 (P < 0.001). Please refer to Table 1 for comparison in detail. In the patient who required additional operative intervention, the postoperative TEG revealed platelet inhibition of 79.1%, revealing inadequate aspirin effects despite prophylactic dosing.

CONCLUSIONS: TEG represents a breakthrough innovation that could provide treatment-specific, predictive information regarding the hypercoagulability of patients receiving FTT. Our series demonstrates that patients with thrombotic complications exhibited derangements in their blood’s coagulation detectable by TEG. Preoperative presence of factor or platelet hyperactivity accurately predicted thrombotic complications. Although these patients all received post-thrombotic heparin, prospective analysis reliably predicted the need for anticoagulation and antiplatelet therapy as well. Further, the postoperative TEG analysis can evaluate efficacy of antiplatelet therapy. Overall, this study underscores the value of TEG analysis in providing a patient-specific approach to pharmacologic anticoagulation to reduce thrombotic complications.

Cryopreserved Allogeneic Adipose Improves Neo-dermal and Epidermal Thickness after Burns

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INTRODUCTION: Hypodermal restoration via fat grafting after burn trauma to the face provides padding for the overlying skin, helps restore native features, and enhance contour and texture. While powerful, this technique is limited by graft retention often requires multiple rounds of grafting. Here we utilize a cryopreserved allogeneic fat transfer model to demonstrate the efficacy of cryopreserved fat in bolstering skin thickness and dermal-epidermal architecture after burn debridement and skin graft reconstruction.

METHODS: Female Yorkshire swine received 16 4 × 4 cm full-thickness burns. After 48 hours escharectomy was performed to fascia. Wounds were allocated to the following treatment groups: (a) No Treatment; (b) Fat Grafting Only; (c): Skin Grafting Only; (d) Skin then Fat Grafting. Split-thickness skin autografts (0.012 in.) were collected from the lateral thighs, pie crusted at back table, and grafted directly to the wound base. After 10 days, cryopreserved allogeneic adipose from female Yorkshire swine were grafted immediately deep to the graft or eschar depending on group allocation. Subjects were maintained for 8 weeks with interval ultrasound and biopsy for histologic analysis.

RESULTS: On ultrasonic evaluation total skin thickness was noted to be significantly greater in Skin + Fat group when compared with Skin Only (P < 0.05). On histologic assessment, dermal thickness was increased in both Fat Only versus Untreated (P = 0.0395) and Skin + Fat versus Skin Only groups samples (P = 0.0016). When compared with Skin Only samples, Skin + Fat groups demonstrated significantly increased epidermal depth (P = 0.0011). Both groups receiving skin grafts demonstrated significantly greater presence and depth of dermal papillae versus groups without skin graft (P < 0.052).

CONCLUSIONS: Facial burns are highly morbid injuries affecting quality of life and psychosocial well-being. Debridement and reconstruction can require extensive and repeat surgical interventions often with significant soft tissue deficit and obliteration of native facial architecture with long-lasting disfigurement. Fat grafting may address this; however, uncertain retention and need for multiple surgeries provides a barrier to some patients. Cryopreservation of adipose at initial liposuction addresses that limitation and here we demonstrate the efficacy of this technique in enhancing the thickness and structure of reconstructed skin.

Microsurgical Perceptions among Medical Students: Time for Intervention?

Presenter: Harsh Patel, MD

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BACKGROUND: The early perceptions of medical students have been shown to play an integral role in the specialty they pursue.1,2 Residency programs such as Plastic and Reconstructive Surgery expect applicants to demonstrate significant interest in the field and display extensive resumes that include research and academic achievements, all of which require preparation during the pre-clinical years. Due to limited exposure, most medical students are not aware of the scope of Plastic Surgery, let alone subspecialties such as microsurgery. This study aims to characterize the perceptions of Plastic Surgery and microsurgery among medical students to provide an impetus for intervention.

METHODS: A questionnaire created with Google Forms was distributed to medical students at medical schools across the nation. The survey assessed two aspects: (1) perceptions of Plastic Surgery and (2) knowledge of microsurgery.

RESULTS: In total, 750 responses were collected from medical students in all years of training. An estimated 50.8% were in preclinical years and 49.2% were in clinical rotations. When queried about the sources of their Plastic Surgery knowledge, 85.2% cited social media, 65.6% television, and 49.2% movies. Only 26% of respondents mentioned first-hand exposure to Plastic Surgery. Nearly 60% of students had a negative perception of Plastic Surgery due to media portrayal of the specialty, which is consistent with previous studies.3 In total, 22% of participants showed an interest in Plastic Surgery, but no respondents indicated an interest in microsurgery as a career option. When asked to describe what they thought microsurgery entailed, the majority answered “I don’t know,” or only had a very general understanding that it involved surgery of “small things.” Several respondents thought microsurgery pertains to robotic surgery. When questioned about