CONCLUSION: This study indicates that combined PDL and FACL, performed in the early stage of wound healing may have the potential to optimize scar formation of surgical scars.

A Prospective, Multi-Center, Randomized, Evaluator-Blinded, Split-Hand Study to Evaluate the Effectiveness and Safety of Large-Gel Particle Hyaluronic Acid with Lidocaine for the Correction of Volume Deficits in the Dorsal Hand

Presenter: Amir Moradi, MD

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STUDY OBJECTIVE: To evaluate the effectiveness and safety of large-gel particle hyaluronic acid with lidocaine (HAL) compared to no treatment for the correction of volume deficits in the dorsal hand.

DESIGN: Prospective, multi-center, randomized, evaluator-blinded, split-hand study

METHODS: Subjects (N = 115), aged ≥22 years with a volume deficit in the hand, received treatment on Day 0 with large-gel particle hyaluronic acid with 0.3% lidocaine (HAL) in one hand in a randomized fashion. The fellow untreated hand served as the primary comparator. HAL was applied subcutaneously using either 29G x ½-inch thin-walled needles or 25G x 1½-inch blunt tip cannulas. Treatments were administered to all subjects at Day 0 and at Month 6, including optional touch-ups 4 weeks after the first injection. The primary effectiveness endpoint was based on ≥1 point of improvement with treatment versus no treatment in the Merz Hand Grading Scale (MHGS) at Week 12. Other assessments included Central Independent Photographic Reviewers (CIPR) evaluations of hand photographs, Global Aesthetic Improvement Scale (GAIS), Subject Satisfaction questionnaires, and safety (including passive and active range of motion).

RESULTS: For the first treatment, the mean injection volume was 2.2 mL and in most cases (87.7%) a topical anesthetic was not used. Subjects demonstrated a significantly higher responder rate for HAL (85.3%) compared with no treatment (22.0%) at 12 weeks (P<.0001). Significantly more responders were observed in the treated hand at 16, 20, and 24 weeks. CIPR assessments showed consistently greater improvements in the treated hands compared with the untreated hand from Week 12 to Week 24 (range 74.8% to 89.5%). Most subjects and treating investigators (93.3% to 100%) reported improvements across all timepoints in the GAIS. There was no impairment in hand function after treatment. Fourteen (12.3%) subjects experienced 31 adverse events related to the product and/or injection procedure. Most were mild in severity and none were serious.

CONCLUSION: Large-gel particle hyaluronic acid with lidocaine, injected with either sharp needle or blunt-tip cannula, is safe, well-tolerated, and superior to no treatment for the correction of volume deficits in the dorsal hand.

Evaluation of High Intensity Focused Fractional Radiofrequency Microneedling (HI-FRM) and Fractional Laser (FL) for Combination Treatment in Wrinkles, Texture, and Pigmentation of the Face and/or Neck

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BACKGROUND/OBJECTIVE: Normal aging leads to change in skin collagen structure and reduced elasticity that can result in wrinkles, texture and pigmentation changes. With a variety of aesthetic treatment options available, combination treatment approaches has led to greater patient satisfaction and better quality of care. The purpose of this study is to evaluate the clinical outcomes of HI-FRM and FL combination treatment for improving wrinkles, texture and pigmentation of the face and/or neck.

METHODS: 22 subjects were enrolled (2 screen failures); 20 subjects received combination treatments. The treated cohort was comprised of non-Hispanic, Caucasian females with mean age of 56 years (range 38–72) and mean BMI of 24 (range 19–28). The majority of subjects presented
with Fitzpatrick Skin Types II and III. Subjects received 3 combination treatments completed 30 days apart. Standardized photographs were taken at baseline and each follow-up. Improvement in wrinkles, texture and pigmentation was determined by masked, qualitative assessment of photographs at 90 days after last treatment compared to baseline. Clinician and Subject Global Aesthetic Improvement Scales (CGAIS, PGAIS), and a Patient Satisfaction Questionnaire were completed at 90 days after last treatment.

RESULTS: Fifty-four (54) device- or procedure-related events were reported, including erythema (46%), edema (35%), tenderness/soreness/sensitivity to touch (11%), petechia (4%), acne (2%) and folliculitis (2%). The vast majority of events were categorized as Expected Treatment Effects (96%); two (4%) events were categorized as Adverse Events due to the events’ duration. All events were reported as mild (92%) or moderate (8%) in severity. No serious adverse events have been reported. An analysis across all endpoints will be completed with final data.

CONCLUSION: It is hypothesized that HI-FRM and FL combination treatment may be effective in improving wrinkles, texture and pigmentation of the face and/or neck.

Trends in Fat Grafting: A 10-Year Analysis of the Major Plastic Surgery Journals

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PURPOSE: Fat grafting has attained rapid popularity for both reconstructive and aesthetic purposes. Clinical research has explored the advantages of adipose stem cells beyond the traditional boundaries to incorporate into all areas of the body. However, despite rising international interest in the regenerative outcomes, no methodological and technical standardization exists. Rather, the efficacy of fat grafting extends far beyond the clinical results, with intermediate steps, such as harvesting, processing, donor and recipient sites, critically influencing the final outcome. This study analyzes the literature on fat grafting techniques during the experimental and clinical stages to provide a comparative platform.

METHODS: A systematic review of 22,274 articles conducted for the years 2006 to 2015 of major plastic surgery journals (PRS, JPRAS, APS, ASJ, Annals, PRS Go, etc.) yielded 719 articles, which were further narrowed by predetermined inclusion criteria, resulting in 667 related publications. Two-tailed t-tests and Chi-squared tests with the Cochran-Armitage Trend Test evaluation were performed using JMP software. The five most-cited articles related to fat-grafting from each journal were reviewed during our study period to serve as a comparative platform.

RESULTS: Total number of articles per year increased significantly throughout the 10-year span (p<0.0001) from 13 in 2006 to 118 in 2015. PRS (p<0.0001), JPRAS (p<0.0015), Annals (p<0.0013), and APS (p<0.015) all showed significant increases over time. Basic science (p<0.04), animal (p<0.01), and human (p<0.01) studies all increased significantly throughout the study period. Level of evidence for human studies increased throughout the years, with significant increase for levels 2 (p<0.01), 3 (p<0.01), and 4 (p<0.001). Of the papers regarding clinical outcomes, 50.17% of the papers focused on reconstruction, 39.69% focused on aesthetics, and 10.24% emphasized both. A total of 113 articles studied fat-grafting to the breast, 96 on head and neck, 39 on entire body, 12 on gluteus, 12 on upper extremities, 8 on trunk, 7 on lower extremities, 3 on the abdomen, and 3 on perineum.

CONCLUSION/SIGNIFICANCE: As fat grafting becomes increasingly widespread in clinical practice, there is discordance in the standardization of methods and an absence of basic science and clinical evidence in certain procedural aspects. Nevertheless, the applications and future of adipose stem cell research remains promising. Analysis of the 5 most-cited articles revealed a consensus in that early fat grafting practice showed great potential mixed with practical uncertainties. The authors state that recent technological advances have led to a resurgence in fat grafting literature, and the possibility that the technique can achieve its full potential.

We hope that this review will provide some insight in the evolution of fat grafting, and emphasize the facets that can undergo further investigation.