The Use of Nanofat in Androgenic Alopecia. A Prospective Blinded Study

Presenter: Michelangelo Vestita, MD
Co-Authors: Angela Filoni, MD; Domenico Bonamonte, MD, PhD; Rossella Elia, MD; Giuseppe Giudice, MD
Affiliation: University of Bari, Bari

INTRODUCTION: The many proprieties of nanofat in regenerative and aesthetic surgery are just being discovered.1-3 The purpose of this study was to investigate the efficacy and safety of nanofat in androgenic alopecia.

METHODS: We enrolled 12 consecutive male patients affected with androgenic alopecia at our private practice. Patients were excluded if they were or had been under treatment with oral finasteride or laser or injectable treatment for hair regrowth in the previous 6 months. Patients under topical minoxidil (2% or 5%) were given a wash out period of 60 days. Each patient was given a single injection session of nanofat, following the microbolus technique over the interested areas of the scalp. One area was selected as control and was not treated. The nanofat was obtained from the liposuction aspirate using the Tulip Nano™ kit device and immediately after it was injected in the treated scalp area. Each patient underwent trichoscopy of the sample marked area and a thricogram examination at baseline, and then 1, 3, 6 and 12 months after treatment by a blinded physician. A patient satisfaction VAS score was also recorded at the post-treatment visits. Adverse events were recorded at each follow up.

RESULTS: Each treated area in every patient showed an increase in number and thickness of hairs at the trichoscopy examination, superior to the control area, starting at the 3 months follow up and partially persisting at 12 months. The patient satisfaction VAS increased significantly, from the 6 months-follow up on.

DISCUSSION: Many therapeutic solutions for androgenic alopecia fail or deliver temporary improvement4. Our experience indicates a significant and enduring response (up to 12 months) to treatment with a single session of nanofat in androgenic alopecia in male patients. At 12 months the results partially persisted in 6 cases; the other 6 recurred. Considering that these patients were treated with a single session of nanofat and were not under any other treatment for androgenic alopecia these results are indeed notable. No adverse events were recorded during our observation. This is a pilot study based on a limited cohort and with no control group. Controlled studies will be needed in order to validate our preliminary results.

Reference Citations:
1. Tonnard P, Verpaele A, Peeters G, Hamdi M, Cornelissen M, Declercq H. Nanofat grafting: basic research and clinical applications. Plast Reconstr Surg. 2013; 132: 1017–1026.
2. Banyard DA, Sarantopoulos CN, Borovikova AA, et al. Phenotypic Analysis of Stromal Vascular Fraction after Mechanical Shear Reveals Stress-Induced Progenitor Populations. Plast Reconstr Surg. 2016; 138: 237e-247e.
3. Alexander RW. Biocellular Regenerative Medicine: Use of Adipose-Derived Stem/Stromal Cells and It's Native Bioactive Matrix. Phys Med Rehabil Clin N Am. 2016; 27: 871–891.
4. Kelly Y, Blanco A, Tosti A. Androgenetic Alopecia: An Update of Treatment Options. Drugs. 2016; 76: 1349–1364.

Camouflage of Scarring Alopecia By Using Follicular Unit Transplantation

Presenter: Nuh Evin, MD
Co-Authors: Osman Akdag, MD; Mehtap Karamese, MD; Zekeriya Tosun, MD
Affiliation: Selcuk University, Konya

INTRODUCTION: Scarring alopecia usually results from trauma, burn and previous surgery in the aesthetic units of head and neck.1,2,3,4 Various treatment options that anti-scar ointments, laser treatments and scar revisions surgeries have been used for treatment of these scars. However, it is difficult to destroy the existing scar with these treatment methods; it is not possible to treat alopecia. In this study, we present our result about the camouflage of the scarring alopecia with follicular unit transplantation in the head and neck area.

METHODS: Between 2015 and 2016 years, 27 patients who were treated for scarring alopecia after 13 trauma (4 scalp, 2 sideburn, 3 eyebrows
and 4 beard) and 14 cleft lip repair (6 unilateral, 8 bilateral) were included in the study. Firstly the recipient areas were assessed for scar width and maturity, the number of needed donor grafts, the angle and direction of the existing hair around scar. The occipital and post auricular scalp area were selected as donor sides for scalp, sideburn and eyebrow scars. If there were adequate follicular unit in the submental beard region, it was selected as donor side for moustache and beard scar; if were not, scalp was selected again. Two teams that extraction and implantation worked together for shortening the duration of ischemia. Çeviri hatası All patients were discharged on the same day with analgesics and antibiotics. The patient was called for control at the 2nd week, 1st, 3rd, 6th, 12th months and digital photographs were taken. Graft survival and patient satisfaction were assessed with Photoshop program and the patient satisfaction scale (1: not satisfied, 0: neutral, 1: moderate, 2: good, 3: very satisfied) at post-operative 1 year.

RESULTS: There were no major complications in the early postoperative period, transient edema due to tumescence infiltration and pain responding to simple analgesia. In the late period, one epidermal inclusion cyst developed, treated with excision. Mean survival rate of grafts was 86%. 20 patients were very-well satisfied (3), 7 were good (2).

CONCLUSION: The scarring alopecia is a challenging problem to deal with affects the social and psychological condition of the patient in the aesthetic units.² ³ Focal unit extraction technique (FUE) hair and beard transplantation is an easy, low cost, minimally invasive and alternative treatment with high success and satisfaction rate in scar camouflage.² ⁴

Reference Citations:
1. Umar S. Use of beard hair as a donor source to camouflage the linear scars of follicular unit hair transplant. J Plast Reconstr Aesthet Surg. 2012 Sep;65(9):1279–80.
2. Barr L, Barrera A. Use of hair grafting in scar camouflage. Facial Plast Surg Clin North Am. 2011 Aug;19(3):559–68.
3. Epstein J. Facial hair restoration: hair transplantation to eyebrows, beard, sideburns, and eyelashes. Facial Plast Surg Clin North Am. 2013 Aug;21(3):457–67.
4. Barrera A. The use of micrografts and minigrafts in the aesthetic reconstruction of the face and scalp. Plast Reconstr Surg. 2003 Sep;112(3):883–90.

RECONSTRUCTIVE SESSION 1

Posterior Sheath Repair in Abdominal Wall Reconstruction: Achieving Retromuscular Mesh Placement

Presenter: Charles A. Messa, BS

Co-Authors: Martin J. Carney, BS; Jason M. Weissler, MD; Sameer Shakir, MD; Fabiola A. Enriquez, BA; Stephen J. Kovach, MD; John P. Fischer, MD, MPH

Affiliation: University of Pennsylvania, Philadelphia, PA

INTRODUCTION: Ventral hernia repair (VHR) remains a difficult surgical problem to manage. Retromuscular sublay mesh placement in VHR consistently provides favorable outcomes regardless of mesh type utilized, presumably highlighting the importance of the posterior rectus sheath. We hypothesized that posterior sheath repair to achieve retromuscular closure demonstrates improved outcomes compared to intraperitoneal repair as well as comparable recurrence and complication profiles to retromuscular sublay repair.

METHODS: We performed a single-institution retrospective review over three-years of consecutive hernia repairs for two surgeons. Included patients were grouped according to repair-type: A) sublay placement with reconstructed posterior sheath, B) retromuscular repair with unaltered posterior sheath, and C) intraperitoneal or underlay repair. Primary outcome measures included hernia recurrence and surgical site occurrence (SSO). Analysis included multivariate logistic regression and descriptive statistics.

RESULTS: One-hundred seventy-nine patients met inclusion criteria. There were 25 (14.0%) in Group-A, 89 (48.7%) in Group-B, and 65 (36.3%) in Group-C. Groups did not differ in average age 56.5 (p<0.298), BMI 32.4 (p<0.774), incidence of diabetes, hypertension, hyperlipidemia, COPD, tobacco use, OR time, or ostomy reversal. The majority of cases consisted of ASA class 3 (54.2%), Ventral Hernia Working Group (VHWG) class 2 (47.5%), and clean wound classification (63.7%). Prior hernia repairs were performed in 102 (57%) patients. Biologic mesh was used in 56 (31.3%) patients, synthetic in 103 (57.5%), and biosynthetic