Aesthetic Medicine – Quo Vadis?

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What is beauty?

- Concepts of beauty are exemplified by our icons.
- Beauty is a concept that is ethnically, racially and culturally determined.
Life is Easier When You are Beautiful

• Higher grades
• More often judged kind, decent, and honest
• More likely to marry
• More likely to be promoted at work
• Wait shorter amount of time for services
• Bad behavior more likely to be forgiven
The science of beauty

- Studies have shown that individuals who feel good about the way they look”
  - Lead more productive and happier lives
  - Can actually live longer
Aesthetic Medicine: What Our Patients Want

• Look “Better”
• Look Better Without “Downtime”
• Look Better “Right Away”
• Look Better “Without Pain”
• Look Better “Without Surgery”
• Look “Natural”
• Look Better without costing too much
• A Treatment that “works”
• “Delay aging”
• picture of Katie Holmes in her 20’s and a digitally enhanced of what she would look in her 70’s
• profound changes in skin texture and volume loss
• volume loss around her orbital area, her cheeks, her lips
• lost the heart shaped face to a more squared face
• deep skin wrinkles and shadows, versus a smooth and lighted face
Aging Skin and Facial Changes

- Facial Bone
- Facial Fat
- Facial Muscle
- Facial soft tissue, the skin changes...
  - Loss of collagen and elastin
  - Photodamage, hyper and hypopigmentation
  - Gravitational force
  - Texture and tone
  - Vascularity
  - Pore size

- We loose 5ccs or one teaspoon of volume from our face after 40 per year due to boney loss. Muscle atrophy, facial fat loss or dermal thinning
So What can we do to prevent this?

- So how can we avoid the aging process?
- What is available? What is the goal?

- Improve the skin texture, tone elasticity, pigmentation and increase in vascularity
- Minimize wrinkles, folds and depressions
- Revolumize (elevate and fill with a lateral rotation)
- We either have to expand the volume of the underlying structures (Fillers, Fat) or tighten the skin (surgery and thermal effects – lasers, skin tightening)

- The goal to return to a youthful contour is to match the skin envelope with the underlying structure
Young Skin is BRIGHT Skin
A youthful face is a FULL Face

Youthfulness is characterized by BRIGHT Skin and a FULL Face
Improving the appearance of skin has a positive impact on one’s self perception and thus can enhance vitality and longevity.
Skin Rejuvenation

Full Laser Resurfacing
Carbon Dioxide and Erbium YAG lasers

Fractional Ablative Laser Resurfacing

Non-Ablative Photo-Rejuvenation

Mesotherapy/Microdermabrasion
Microneedling/Dermabrasion

Skin Peels
Medical Skin Care
Goals of Skin Resurfacing:
Restoration of healthy dermis and epidermis with smooth texture, even pigment, increased elasticity
Rejuvenation: Lasers and IPL and energy based devices

• Ablative
  – **Full-ablative lasers** (remove 100% of the epidermis or even part of dermis) – smoother appearance of the skin + skin tightening due to heat-induced collagen shrinkage
  – **Fractional ablative lasers**
Fractional Laser Treatment
Standard Skin Resurfacing
Fractional Skin Resurfacing
Fractional Laser Treatment

Immediately after

2 days after

7 days after
Laser Resurfacing

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Full face resurfacing
Sciton Contour TRL + ProFractional Therapy
PRP and Stem Cells turning back the clock on aging

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The future is now

• Autologous therapy is a hot topic in **aesthetic medicine**.

• **Regenerative medicine**, an emerging field aiming to **repair or restore lost or damaged tissue function due to aging, disease or injury**.

• For many, the idea of using one’s own cells or adipose tissue as a **new treatments** is both controversial and futuristic.
Here is **PRP**

PPP

PRP

Red Blood Cells

Red Blood Cells

Platelets
Platelets-release growth factors

- PDGF (Platelet derived growth factor)
  Cell growth, new generation and repair of blood vessels, collagen production

- FGF (Fibroblast growth factor)
  Tissue repair, cell growth collagen production

- EGF (Epidermal growth factor)
  Promotion of epithelial cell growth, angiogenesis, promotion of wound healing

- KGF (Keratinocyte Growth Factor)
  Growth and new generation of keratinocytes

- VEGF (Vascular endothelial growth factor)
  Growth and new generation of vascular endothelial cells

- TGF – B (Transforming growth factor beta1)
  Growth of epithelial cells, endothelial cells, promotion of wound healing
Platelets release growth factors

Angiogenesis stimulated

New blood vessels

Fibroblasts migrate

Fibrin

Scaffold for collagen processing

Collagen / matrix formation

PRP in aesthetic
Fibroblasts

Human Skin Fibroblasts

Photo Courtesy of David H. McDaniel, MD - Anti-Aging Research & Consulting, L.L.C.
PRP induces new collagen

1 week, 40x

10 weeks, 40x
PRP Aesthetic Uses

• Skin Rejuvenation of:
  – Sun-damaged and prematurely aged skin
  – Periorbital injection – rejuvenation around the eyes
  – Sagging skin on the neck, chest and face
  – Cheeks, mid-face and jaw line
  – Acne and Acne scars
  – Décolletage
  – Back of the hands,
• PRP as Facial Filler (Calcium Chloride can be added to PRP and PPP to create a gel product that can be used for facial filler)
• Hair restoration
• Scars
• Stretch marks
• PRP with microneedling, fractional laser
• Stem Cell Face Lift (Facial fat tissue improvement)
PRP combination therapy with laser

- Full ablative Skin Resurfacing
- Fractional Skin Resurfacing

Immediately after
2 days after
7 days after
PRP in aesthetic

**FIGURE 6.** Dermoscope picture before the treatment of a cheek.

**FIGURE 7.** Dermoscope picture after the treatment of a cheek.

**FIGURE 8.** Volume increase of nasolabial folds in patient 4: Pre.

**FIGURE 9.** Volume increase of nasolabial folds in patient 4: Post.

Redaelli A. et all Journal of Drugs in Dermatology 2010
Stem Cells

• Adult stem cells are found in many tissues
• The primary role of stem cells is to maintain and repair the tissue in which they are found
• Adult stem cells are multipotent - can differentiate into a subset of cell types

Benefits of Stem Cells:
• Have potential to replace cell tissue that has been damaged or destroyed by severe illness (any disease where there is tissue degeneration)
• Stem cells can be used to generate healthy and functioning specialized cells which can them replace diseased or dysfunctional cells
What Diseases Can Stem Cell Therapies Treat?

Cell replacement therapy could treat injuries and various genetic and degenerative condition

- Arthritis
- Alopecia
- ED
- Congestive Heart Failure
- COPD
- Retinal degeneration
- Alzheimer’s disease
- Parkinson’s disease
- Muscular dystrophies
- Diabetes
- Spinal cord injuries
- Blood disorders
- And many more...........

Under Clinical Trials
Aesthetic treatment of ADSC

- **“Stem Cell Face Lift”**
- Skin rejuvenation, Melasma, Acne Scars
- Hand rejuvenation
- Breast augmentation
- Buttocks augmentation
- Hair growth (therapy alone or after hair transplantation)
- Vaginal rejuvenation (augmentation of labia majora, G-Spot augmentation/ O-Shot)
- Penile enhancement, ED / Penile Shot
Adipose Derived Stem Cells (ADSC) Separation

- Liquid Fat
- Collagen/adipocytes/debris
- Media
- Cells
Cell-Assisted LipoTransfer

Aspirated fat (ASC-poor fat) + Freshly isolated SVFs → CAL fat (ASC-rich fat)

Cell isolation (1.5 h) in Cell-Processing Room

Aspirated fat is used as a living scaffold
Body contouring and skin tightening:

• Huge demand from our patients
• Very fast growing market
• Body contouring is not for obesity! It is for disproportionate distribution of fat
• Indications: reduction of localized fat deposits, reduction of cellulite, smooth appearance of dimpled and sagging skin

• Non-invasive
• Invasive (laser lipolysis, liposuction)
AESTHETIC GYNAECOLOGY demand

- The extension of life and of the average age poses the need to render their quality the best and the necessity to **revitalize the cellular structures not only of the face and body**, but of all the anatomical regions, including the **vulvar region**

- **Aging process**: From skin and face rejuvenation to... **intima area** rejuvenation

- The extensive range of treatments proposed in **aesthetic gynaecology** can contribute to increasing the **comfort** of everyday life and aesthetics and, moreover, it may demonstrate positive impact into the **intimate life quality**
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