The Truth About Cosmeceuticals: What Your Patient Needs to Know

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The maturing female
- Women on the average would prefer to look about 13 years younger than their actual age
- 75% of women want their skin to look and feel new
- Most women prefer dermal injectables over surgery
- As the aging population increases, dermatologists are on the forefront of anti-aging and skin care treatments

Mirror, Mirror on the Wall...
- Women ages 35 and older look at their face, on average, about 5 times per day or about once every three waking hours.
- 45 million U.S. women (60%) were more likely to worry about looking old and wrinkled than their body showing the signs of aging
- 60% of women think men would rather kiss a woman with a beautiful face than a beautiful body.

Beauty is in the eye of the beholder™
Biological Perspectives of Aging Skin

- Aging skin is a cumulative process
- Consequence of genetically programmed decreases in functional capacity
- Loss of ability to repair damage

Twenties

- Skin is Vibrant
- Volume/Tone Intact
- Not much make-up needed
- Hair has natural sheen
- Daily sunscreen usage a must!!

Thirties

- Cellular function begins to slow down
- First signs of sun exposure appear
- Good time to start faithfully using a retinoid

Forties

- Wrinkling becomes more noticeable; fine rhytids develop
- Connective tissue/elasticity changes
- Peri-menopausal symptoms begin
- Lips begin to thin
- Rosacea appears

Fifties

- Subsurface changes begin-contour changes
- Nails/Hair-More Brittle
- Reduced elasticity
- Menopausal

Sixties

- Dyschromias prominent
- SK’s, HAK’s need treatment
- Pore size increases
- Hair loses shine
- Vascular redness more noticeable
Beyond Sixty
- Loss of volume
- Lipoatrophy begins
- Bone loss
- Skin laxity increases
- Hair thins/loss
- Purpura

Aging Gracefully
Pretty Perfect!
(No fillers in 1937)

Defining the cosmeceutical phenomenon
- 78 million baby boomers worried about aging
- Cosmeceuticals are promoted as having "biologically active" ingredients
- Used alone or in combination with cosmetic/medical procedures, ie: BTX, dermal fillers, chemical peels

Cosmeceuticals
- Cosmeceuticals are topical products that provide enhanced skincare benefit which go beyond traditional cosmetics known primarily for covering, moisturizing, and cleansing the skin
- Cosmeceuticals for skin rejuvenation are now the fastest growing segment of the multibillion-dollar skin care market
- Used in professional practices as adjuncts to in-office procedures as well as stand alone home treatments

Educating your patients
Help them avoid premature aging

Keeping in natural

Cosmeceuticals in Skin Rejuvenation

- Cosmeceuticals have multiple roles in preparing the skin for better outcomes with skin rejuvenation procedures.
- Enhances the effects of devices/peels.
- Accelerates recovery in post-procedures phases.
- Limitation: Optimal delivery.

Cosmeceuticals: Pre-treatment

- Have patient incorporate a pre-treatment regimen prior to skin rejuvenation/resurfacing.
  - Cleansing/exfoliating assists in acceleration of cell turnover and allows effective penetration of procedure: salicylic acid, alpha-hydroxyl acids, glucosamine, Vit A, etc.
  - Extracts used prior to procedure protect the skin from damaging free radicals and promote even skin tone: antioxidants such as topical Vit C, Vit E, green tea, coffeeberry, mangosteen extract, etc.

- Cosmeceuticals in conjunction with Lasers, Light Sources, and Energy-based Devices. In: Cosmeceutical Science in Clinical Practice (2010). Pgs 82-84

Cosmeceuticals: Pre-treatment cont’d

- Have patient incorporate a pre-treatment regimen prior to treating hyperpigmentation/PIH disorders.
  - Essential to prevent post-inflammatory hyperpigmentation and assist with clearance of lesions.
  - Cosmeceuticals can play a vital role.
    - Soy based products inhibit protease-activated receptor-2 pathway.
    - Licorice extracts have a mild bleaching effect.
    - Topical niacinamide inhibits melanosome transfer to keratinocytes.
    - Topical Vit C has also been shown to reduce hyperpigmentation.

Cosmeceuticals: Immediate post-treatment

- Probiotics: maintains skin barrier and produces a range of antimicrobial peptides to assist eliminate potential cutaneous pathogens.
- Colloidal oatmeal: has high concentration of polysaccharides that form a gelatinous hydrocolloid in water leaving a protective film to help/maintain the epidermal barrier.

Cosmeceuticals: Long-term post-treatment

- Peptides
  - Signal peptides may help with neocollagenesis.
  - Copper peptides aid in wound healing and stimulate collagen.
  - Neuropeptides (argireline) have been promoted to act as neuromodulators but lack supporting evidence.

- Growth factors/growth factor stimulators: play a vital role in wound healing and tissue regeneration.
  - Fibroblast growth factors.
  - Transforming growth factors.
  - Interleukins.
  - Colony stimulating factors.
  - Proteins of Wnt signaling pathway.
  - Growth factors also pose risks if not regulated, they could mediate carcinogenic transformation of cells.

Anti-Aging Treatment Options
- Cosmetic Procedures *(laser, peels, dermabrasions, IPL, etc.)*
- Dermal Fillers/Neuromodulators
- Prescription Topicals
- Non-Prescription Topicals

Prescription Topicals
- Retinoids
  - Most commonly used Rx topicals
  - Effective in speeding skin exfoliation, reducing fine lines, wrinkles and spots
- Hydroquinone
  - Effective in bleaching sun spots if used consistently with sunblock

Non-Prescription Topicals
- Patients frequently consult their dermatologist about comparative non-prescription topicals
- Non-prescription topicals are generally lower strength, and:
  - Relatively low cost
  - Minimal side effects and recovery time

Cosmeceutical Marketplace
- Exposure to products is EVERYWHERE!
- Newspaper, internet, spas, department stores, drug stores, health food stores, commercials, infomercials, news programs, home shopping networks, talk show beauty segments, chat room, message boards

Antioxidants
- Widely used as treatments in human diseases and have now become a vital source in cosmeceuticals because of their strong photoprotective effects

Antioxidants
- Prevent free radicals from forming chain reactions that have the capability of damaging cells during oxidation
- Comprised of various molecules
- Alpha lipoic acid (ALA), coenzyme Q-10, polyphenols, idebenone, kinetin, and vitamins: A (Retinol), B (Panthenol), C (L-Ascorbic Acid), and E (Tocopherol Acetate), and Soy
**Cosmeceutical peptides**

- **Signal peptides:** Ability to increase fibroblast production of collagen
- **Neurotransmitter-affecting peptides:** Topical mimics of botulinum neurotoxin
- **Carrier peptides:** Stabilize and deliver important trace elements (copper) necessary for wound healing

Lupo & Cole

**Cosmeceuticals: Pre/Post Treatment Sunscreen**

- Popularity increasing
- Physician highly recommend!
- Marketing from cosmetic industry
- Inorganic versus organic
- Antioxidants and Repair Stimulators


**Oral Sun Protection Polypodium leucotomos**

- Fern native to Central/South America
- Significant protection from erythema compared to control from 30 minutes to 2 hours after po PLE
- No protection from erythema at 3 hours

**Hydration/Moisterization**

- Provides immediate but temporary symptom relief
- Camouflages dry skin
- Reduces/improves appearance of fine lines

**Device assisted transepidermal delivery of cosmeceuticals**

- Lasers, light sources, other device-based technology are being evaluated as penetration enhancers
- Photopneumatic therapy with profusion
  - Clinical trials show improvement when used with topical growth factor
  - Micro-needling to enhance penetration

**Cosmeceuticals: Pre/Post Treatment**

- **Bruising**
  - **Arnica Montana:** Promotes tissue healing by rapidly decreasing edema and ecchymosis
  - **Evening Primose Oil, Vitamin C and E**
  - **Vitamin K Oxide**
On the horizon... advances in cosmeceuticals

- Definitely here to stay
- Several milestones that must be reached
- Major hurdle is the lack of recognition under current regulations used to define drugs, over-the-counter drugs, and cosmetics developed in the 1930's - much has occurred the last 78 years!

Beyond cosmeceuticals

- Nutraceuticals:
  - Nutricosmetics is an emerging area of anti-aging medicine
  - Science linking nutrition, skin aging and skin health that can be used as part of a comprehensive program to improve appearance
  - Popular in Japan and China
  - Beauty food and drinks in Japan: most popular nutricosmetics

Aging naturally

- Pre-injection
- Post-injection
- Aging gracefully
Lower face volumizing
Calcium hydroxylapatite: Radiesse®

Botulinum toxin / Fillers Perioral area

Pre-jowl sulcus/Marionette lines
Calcium hydroxylapatite: Radiesse®

Lips

Use Constraint

Beauty and Health
Fat Redistribution

Beauty: Hardwired

- 3 mo: babies stare longer at attractive
- 1 yr: play longer with attractive dolls
- Viewing beautiful faces activates dopamine pathways
- “Beauty is not so much in the eye of the beholder, as on the brain circuitry of the beholder, shaped by millions of years of human evolution”

Langlois, Statt, Neumann, Marvin, Winkelkraut, Bijou, Alain

Measurements of the Ideal Face

“Beauty is in the Phi of the beholder.”
- Marquardt

In Summary

Today’s universal concept is appropriate patient expectations with a natural look
References