Disclosures

- No pertinent conflicts of interest in relation to this presentation

- Gilanex (C) (R)
- Symbau (R)
- Alergan (C) (R)
- Valмет (Pharmaviscal) (C) (R)
- AbbV (C) (R) (R)

Where are we today?

Photorejuvenation was one of the top 5 nonsurgical procedures in 2013, with increase of 35% over 2012.

Fractional skin resurfacing procedures went up 5% vs. 2012.

More and more chemical peels being performed every year.

There are 2 available options today for skin resurfacing:
- Ablative
  - Makes about 30% of the laser skin resurfacing treatments
- Non-Ablative
  - Makes about 70% of the laser skin resurfacing treatments

American Society of Plastic Surgery 2013

Melasma

- Treatment Options
  - Topical Retinoids & Combination Therapy
  - Azelaic Acid
  - Hydroquinone
  - Chemical Peels
  - Cosmeceuticals
  - Lasers
  - Dermabrasion
  - Reassurance and Time

Do Lasers work in Melasma?

Q-switched Nd:YAG

- 27 female subjects, phototypes II–V
- Mixed-type melasma refractory to previous therapies
- Low-fluence QS Nd:YAG laser treatment of 1.6–2 J/cm² with 5 or 6 mm spot was administered immediately following microdermabrasion.


- Daily application of a broad-spectrum sunscreen began immediately
- Subjects used a topical skin care regimen of hydroquinone with tretinoin or vitamins C. Treatments were repeated at 4-week intervals
- I always encourage **PRE-TREATMENT**

Q-switched Nd:YAG

- Most subjects showed >50% clearance of their melasma 1 month after the first treatment.
- Side effects were limited to mild post-treatment erythema, which developed after the microdermabrasion and lasted approximately 30–60 minutes.
- Four subjects noted temporary exacerbation of melasma after inadvertent sun exposure, but this resolved within several weeks of resuming the topical skin care regime.
- Remission lasted at least 6 months.


Q-switched Nd:YAG

- A derivative isolated from cranberry and blueberry shrub leaves
- A-D-glucopyranoside derivative of HOQ, tyrosinase inhibitor
- Has been shown to diminish effective but weaker as compared to hydroquinone and non-cytotoxic
- Overall, less irritating than hydroquinone, and non-cytotoxic
- Deoxyarbutin seems to have an enhanced effect

Arbutin

**Vitamin C**
- Reduces tyrosinase activity via antioxidant effect
- Stable derivative called MAP (magnesium-ascorbyl-phosphate)
- 5% ascorbic acid vs 5% hydroquinone studied
- 6.2% vs 93% improvement, but 6.2% with SE’s vs 68.7%
- Although HQ showed better response, Vit C less irritating
- Use in combination therapy +/- HQ


**Soy**
- Soy contains various biomarkers
  - Serine protease inhibitors → inhibit PAR-2 and melanosome transfer
  - Fatty acids → inhibit trypsin which would activate PAR-2
  - Isoflavones → inhibit DOPA oxidase activity
- Safe and efficacious for hyperpigmentation
- Skin lightening effects typically seen after 12 weeks of BID application
- Soy milk has a depigmenting effect
- Daily topical treatments for 7 months, no AE’s

*Wallo et al. J Drugs Dermatol. 2007;6:917-22*

**Peels in Melasma**
- Glycolic Acid 30-50% → 5-6 peels q2-3 weeks
- Salicylic Acid Peels 15-30% → 5-6 peels q2-3 weeks
- Trichloracetic Acid Peels 10-15%
  - Can prime skin with Glycolic and then follow with TCA
  - Although, commonly use 10-15% in Types IV-VI

**Cases of Interest**

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