The Use of Compounded High Percentage Hydroquinone and Oral Tranexamic Acid in the Treatment of Resistant Melasma

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No conflicts of interest.
Which of the following are cost effective treatments for melasma?

- A. Compounded high percentage hydroquinones.
- B. Oral tranexamic Acid.
- C. None of the above.
- D. A and B.
Which of the following can be used in the treatment of recalcitrant melasma?

- A. Tranexamic Acid 650 mg ½ tablet BID.
- B. Hydroquinone 12%/ Kojic Acid 6% BID.
- C. Hydroquinone 16%/ Kojic Acid 6% BID.
- D. All of the above.
SUBJECTIVE

- Brown spots
- Sun Damage
- Acne Scars
- My pigment is worsening or spreading.
- I had a laser treatment and the brown spots are worse.
- I had a chemical peel and the brown spots are worse.
- I have been on Hydroquinone 4% for over a year and it doesn’t work.
38 year old female
60 year old female
What history should you elicit now?  
*Your clinical dx should be done*

- Family History of “hyperpigmentation”?  
- When you had treatments, were you put on hydroquinone to prep your skin before and after the treatment?  What was the %?  
- When did this start?  Pregnancy, Perimenopause, OCP, Bioidentical hormones, Acne/Scarring, post peel/procedure.  
- What else is in your skin care regimen?  Vit C/antioxidants, SPF #, reapplication of SPF (unlikely), SPF in makeup (doesn’t count), tretinoin (or too irritating), aesthetician appointments.  
- Allergies?  PCN?  Mushrooms?  
- What’s your ethnicity/genetic makeup?  Have you done genetic testing?  
- What are some successful treatments that you have had in the past?
You already know the diagnosis (at least in your head):

- Melasma
- PIH due to procedure
- Acne Scars (PIH)
- Combination of any of the above
Plan--Melasma

- Although we all categorize our patients into a Fitzpatrick Skin Type, should we refine our categorization based on ethnicity?
- There are so many mixed races now that it becomes important to know how someone scars, develops PIH or erythema, and responds to procedures.
- Have they done any “genetic testing” such as Ancestry or 23&Me? Why is this important in treatment considerations?
- Consider increasing their Fitzpatrick skin type to highest skin type based on ethnicity or genetic testing for treatment and procedures.
- Photodocumentation at the office
Melasma Treatment with Hydroquinone

- Fitz 1-3 HQ 8/ KA 6/ VIT C 5 BID
- Fitz 3-4 HQ 8-10/ KA 6/ VIT C 5 BID
- Fitz 4-5 HQ 10-12/ KA 6/ VIT C 5 BID
- Fitz 5-6 HQ 12-18/ KA 6/ VIT C 5 OR HQ 20 BID
- PEARL: Don’t use KA if allergic to PCN/mushrooms
- PEARL: Rosacea or Atopic patients may not be able to tolerate KA
- PEARL: “Highly sensitive” patients may not be able to tolerate KA
- PEARL: HQ 20% cannot be made with any other components since adding additional ingredients may dilute the concentration of HQ 20%.
- Follow Up in 6 weeks to check for compliance, photos, and irritation
What happens at the 6 week follow up?

- Photos
- Titration of dosage
- Is it possible to start maintenance?
- Consideration and discussion of future procedures
- Consideration for oral Tranexamic Acid
- What about a summer time flare?
- What if there is irritation?
- What other types of counseling should be done?
If your system allows for evaluation of erythema, check for a vascular component of melasma. If present, consider a vascular laser or low level IPL starting in the fall/winter.

If patient had a procedure that created a flare, consider erythema/melasma flare vs. true vascular melasma. Consider changing to HQ/HC 2.5% x 1 month and recheck in 4-6 weeks.

The addition of HC 2.5% or TAC 0.1% requires follow up in an effort to take patient off of the steroid and go back to a product without a steroid.

If the patient has vascular melasma, consider oral Tranexamic Acid.
For patients, a 4% change in HQ is much more visible clinically than a 2% change.

Use this chart and titrate upwards:

- Fitz 1-3 HQ 8/ KA 6/ VIT C 5 BID
- Fitz 3-4 HQ 8-10/ KA 6/ VIT C 5 BID
- Fitz 4-5 HQ 10-12/KA 6/ VIT C 5 BID
- Fitz 5-6 HQ 12-18/KA 6/VIT C 5 OR HQ 20 BID

If it is almost summer, consider a 4% increase in HQ for the summer
Is it possible to start maintenance therapy?

- You can start maintenance whenever you and the patient are happy with the result and stable on a specific dosage.
- Options:
  - Decrease HQ % by 2-4% every 6 weeks
  - Decrease frequency of usage to qd
  - Decrease frequency of weekly usage to QIW→TIW
  - Bridge with a proprietary topical like Lytera, other non HQ cosmeceutical, compounded topical Tranexamic acid 7%, Cysteamine
  - Control the refills (no refills without visits)
  - Don’t get too stressed because patients will run out, use longer than the expiration date, or just stop their HQ
Future procedures

- Always prep a melasma patient with HQ for 2-4 weeks before doing a procedure. They have to stay on HQ throughout the procedure process.
- Intense pulse light x 3
- Peels
- Vascular lasers
- Microneedling
- Laser Toning (Genesis)
Tranexamic Acid

- So far, I love using it.
- Contraindications: Thromboembolic hx or risk, Family HX Thromboembolic dz, hypersensitivity
- Dosing: 650 mg 1/2 tablet QD-BID
- How long do we let patients take it?
- The risk of clotting is approximately the same as an OCP.
- OCP > Transdermal/patch hormones > vaginal hormonal therapy for risk of clotting.
- No one knows the risk of clotting for bioidentical hormones but FDA will be studying this soon.
Summer time flare

- It is expected, it will happen and it’s normal.
- Don't take a patient off HQ during the summer.
- Decrease the brown as much as you can before summer starts.
- Increase SPF usage/reapplication
- HQ is not photosensitizing so it’s ok to take it with you on a sunny vacation
- Consider adding Tranexamic acid for the summer
- Sunglasses with metallic rims
- Blue filters for Ipad and Iphones
What if there’s irritation with your compound?

Change the base and go to a gel
Take out KA
Add HC 2.5%
Take out Vit C 5%
Make sure the patient is using a pea size mixed in with moisturizer for the WHOLE face (more is not better)
Decrease the HQ%
Call your compounding pharmacist—they are the best resource. Have they changed the formula, base, bad batch?
Counseling

- SPF >45 with reapplication
- Makeup doesn’t count (you know this)
- Iron Oxide/tint in sunblock
- Blue filters on Ipads and phones
- Metallic Rims on glasses
- Hats
- Ongoing condition that requires ongoing maintenance. Ex: HTN, DM
- What about hormone therapy or withdrawal of it?
- What is the patient’s melasma phenotype? What about pseudo-ochronosis?
The first predictor that HQ is working is the ability to wear less makeup or that application of makeup takes less time.

Titrate HQ% by 2-4% each time.

Happy patients—start tapering usage and consider nonHQ alternatives.

Expectations: Advise patients it takes 1 year to figure out their correct dosing and maintenance. Continue to expect summertime flares (don’t take them off HQ during the summer).

Higher Fitz = Higher HQ = Longer treatment time required.

Severe melasma takes longer to treat than mild so don’t get caught up in “how long” you keep a patient on HQ.
Expiration of product in compounding: 6 weeks = 100% efficacy; 8 weeks = 90% efficacy; 12 weeks < 75% efficacy and requires a refill.

Natural drug holiday occurs in every patient
Do not use Kojic Acid in a PCN/mushroom allergic patient
Add Vit C to the compound for stability and further lightening of skin
Add a cosmeceutical antioxidant qAM during most of the year and BID during summer months
Consider procedures (reserved for fall and winter in melasma patients)
Where do you find high percentage HQ?
National Specialty Pharmacy is licensed in:

Nevada
Arizona
California
Colorado
Connecticut
Florida
Idaho
Indiana
Illinois
Iowa
Maine
Minnesota
Missouri
Montana
New Jersey
New Mexico
New York
Ohio
Oregon
Pennsylvania
Rhode Island
South Dakota
Tennessee
Utah
Vermont
Washington
Wyoming
How else can you get HQ?

- Skinmedicinals
- Your local compounding pharmacy
- Patient cost is approximately $60-70 for 8-12 week supply (30 gm)
- Ask for samples if starting with your local compounding pharmacy
- Try out the texture
- Look for “grittiness” (the pharmacy isn’t running the powder through the mill long enough)
- Look for texture (too thick, too thin, the base that it’s made in)
- Try different bases (light lotion, versabase, gel base, pracasil)
- Call your pharmacist—they are a wealth of information!