



Zero Downtime Melasma Treatment with Picocare450

Heidi B. Prather, MD, FAAD

BACKGROUND:

Melasma is a complex skin disorder effecting the pigment cells of the skin that is most influenced by hormones, such as estrogen, UV exposure, and heat. Although predominantly seen in women with Fitzpatrick skin types III – VI, melasma has been reported in men and almost all skin types. Women commonly see the first signs of melasma as tan patches of hyperpigmentation on the cheek bones, forehead and/or upper lip after pregnancy. Unfortunately, this discoloration can be quite stubborn and resistant to topical, laser and chemical peel treatments. While Hydroquinone 4% topical cream applied twice daily remains the gold standard in current literature, many treatment options exist from chemical peels to laser treatments. There is likely a disparity between treatment responses due to the varying depths of pigment in the skin that can occur.

METHODS:

This case represents an actual patient that received a series of PicoCare450 1064nm Low Fluence HEXA MLA (Micro Lens Array) laser treatments. This is a 35yo woman with 5 children who is not taking any form of hormone therapy. She uses sunscreen regularly and denies any previous use of oral/topical tranexamic acid. She was started on a standard skin care routine at her first laser session including topical Discoloration Defense (Skin Ceuticals, active ingredients Tranexamic Acid, Kojic Acid) twice daily, Hydroquinone 4% (Prescription) nightly, Tretinoin 0.025% (Prescription) nightly, Glycolic10 Renewal Cream (Skin Ceuticals) nightly and a mineral based sunscreen with iron oxides and SPF>30 daily (Revision TruePhysical). She continued to receive Neurorelaxers, Fillers, Microdermabrasion and Dermaplaning during her treatment series from outside providers.

Recommended treatment spacing was 2-4 weeks apart; however actual treatments were received on average every 4.2 weeks (range 3-8weeks). Photos were taken at baseline, 8 weeks after the 4th treatment and 3 weeks after the 6th treatment. Treatment protocol utilized the 1064nm HEXA MLA Hand Piece (8-10mm, 0.2-0.3J/cm², 10Hz, 450ps, 2-4 passes, approx. 2000 pulses). The entire face was treated due to extensive confluence of melasma for this patient. Cool air (Zimmer) was applied to the skin during treatments to help minimize heat, which can influence pigment production in the skin, and to aid in patient comfort. No topical anesthetic was applied prior to treatment to minimize skin irritation. Endpoint was minimal pain and minimal erythema post treatment. Post care was applied including PhytoMasque for cooling (Skin Ceuticals) and a mineral-based SPF > 30 with iron oxides.



Baseline



Baseline



8 Weeks After the
4th Treatment



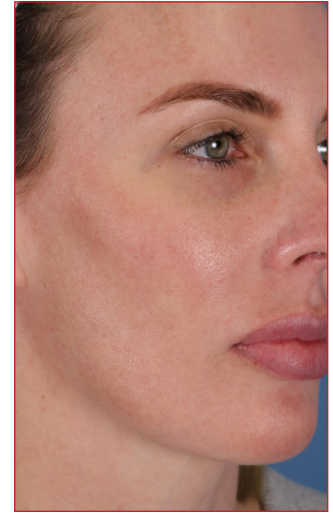
8 Weeks After the
4th Treatment

RESULTS:

This patient experienced steady improvement through her series of HEXA MLA Laser treatments. She had an acne flare during her third session that was treated with a concomitant light Salicylic Acid 30% peel. After her third session, she did not feel that she was having significant improvement. She was reassured and treatment was continued. An additional laser setting with the 1064nm Collimated hand piece (7mm, 0.8J/cm², 10Hz, 450ps, 2-4 passes, approx. 2000 pulses) was used during her fourth laser session in addition to the HEXA MLA treatment. It is not felt that the Salicylic Peel or Collimated HP treatment significantly influenced her treatment series but can be considered as safe for the appropriate patient undergoing melasma treatments. Although she had progressive improvement throughout her treatment series, the patient was most satisfied with the improvement seen between her fourth and last treatment.



3 Weeks After the
6th Treatment



3 Weeks After the
6th Treatment

CONCLUSION:

PicoCare450 offers a unique approach to decreasing melanocyte-based discoloration in patients suffering from epidermal and dermal melasma. Treatment response can be variable and completing at least six treatments is recommended for optimal results. Skin cooling during and after laser treatment may be an important factor influencing treatment results. Laser treatment endpoints should be carefully monitored, as an unwanted amount of post-laser erythema can paradoxically result in worsening pigmentation due to potential skin injury and/or retained heat. Risk factors should be thoroughly discussed with patients to minimize unexpected rebounds due to external UV-light, hormones or heat. Additionally, appropriate skin care should be recommended for patients, including a mineral-based sunscreen with iron oxides and SPF>30, hydroquinone, and additional skin lighteners, as fits in the patients routine and skin tolerance.

ABOUT THE AUTHOR:

Heidi Prather, MD is a board-certified and fellowship trained cosmetic dermatologist that specializes in laser and surgical aesthetics. She has trained at UT Southwestern Medical Center, University of Pittsburgh Medical Center and SkinCare Physicians in Boston, MA. She exclusively practices aesthetic dermatology in Austin, TX at Westlake Dermatology Cosmetic Surgery Center. Dr. Prather is active in her field as a clinical investigator with numerous peer-reviewed journal articles leader within dermatologic academic societies. She currently is PI for clinical aesthetic studies with Galderma and helps support the Clinical Research Center at Westlake Dermatology. She is co-chair of the Media and Public Relations committee within the American Society of Dermatologic Surgery (ASDS) and participates on committees for the American Academy of Dermatology (AAD) and American Society for Lasers, Medicine & Surgery. Her expertise extends to working as a trainer and educator for multiple industry leaders in lasers, injectables and skin care, including, Allergan, Galderma, Merz, Lutronic, Wontech, Revision, PCA, L'Oreal and SkinCeuticals.



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