Pigmentary Disorder Tx Tips for East Asian Skin

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KISSIMMEE, FLA. — Dermal and epidermal pigmentary disorders in East Asian patients can be treated successfully in many cases without causing postinflammatory hyperpigmentation by carefully combining topical bleaching agents with either a Q-switched laser or intense pulsed light.

Careful attention to the device settings as well as the patient's skin type and any presence of melasma will help to ensure the best results with a low risk of postinflammatory hyperpigmentation (PIH), said Dr. Kei Negishi of Tokyo Women's Medical University.

To remove epidermal pigmentation that commonly occurs in East Asians, such as solar lentigines, freckles, melasma, PIH, and pigmented seborrheic keratoses, Dr. Negishi advised using a Q-switched laser, intense pulsed light (set to specific lesion parameters or full-face), and/or topical bleaching cream. Her patients are mainly Japanese, but she also sees some South Korean and Chinese patients.

If the treatment is for a small number of epidermal pigmentary lesions, she recommended using a Q-switched laser or intense pulsed light (IPL) set to a specific lesion parameter, combined with a topical bleaching cream such as hydroquinone or retinoic acid.

Q-switched lasers are the only devices that are capable of removing dermal pigment, such as nevus of Ota or acquired dermal melanocytosis, without scarring. Long-pulsed lasers and IPL would cause permanent scarring, Dr. Negishi said at the annual meeting of the American Society for Laser Medicine and Surgery.

Avoiding PIH

PIH has been reported to occur 1 month after treatment for solar lentigines with a Q-switched laser in 10%-25% of Chinese patients and 43%-44% of Japanese pa-

tients. In Dr. Negishi's own studies, she has found that the addition of a bleaching cream (composed of hydroquinone and retinoic acid) to Q-switched laser treatment plus a steroid and antibiotics could reduce the incidence of PIH by 20%-40%. There was a higher risk of PIH in her patients with skin types IV and V, and in those with melasma, she reported.

To minimize the incidence of PIH, Dr. Negishi suggested using minimum fluences within the window of efficacy for each device, and testing the laser in an inconspicuous area on a patient when it will be used for large or multiple areas. Posttreatment cooling, immediately after treatment, also sometimes helps, she said.

In patients at high risk for PIH, she advises using bleaching agents 2-4 weeks before Q-switched laser treatment, followed by steroid treatment for 7 days after treatment, and then an additional 3-4 weeks of bleaching cream. She also advises patients to use sunscreen every day during the treatment period.

To treat PIH with obvious erythema, she recommended using a steroid plus a mild bleaching agent, such as vitamin C derivatives. In cases without erythema, treatment with IPL at a mild setting can shorten the recovery period, in addition to 2% or 5% hydroquinone, 0.025% or 0.05% retinoic acid, and 0.025% dexamethasone, if it is tolerable.

IPL for Epidermal Pigmentation

The main advantage of using IPL to treat epidermal pigmentation is its reduced risk of causing PIH, Dr. Negishi said. IPL does not disrupt melanosomes, unlike Q-switched lasers, but instead affects melanin-rich keratinocytes, inducing the formation of a microcrust and a partial turnover of the epidermis. Multiple IPL treatments might be necessary to treat pigmentation, and IPLs with a shorter wavelength range have greater efficacy.

Dr. Negishi reported that after an IPL treatment, reflectance-mode confocal microscopy reveals the rapid migration of melanocytes to the basal layer. This suggests that in order to stimulate IPL's efficacy, patients should begin using bleaching cream immediately after the microcrust peels off, she said. With "Q-switched lasers, bleaching creams are used to prevent PIH, but with IPL, they are used to stimulate treatment efficacy," she said.

IPL also is a good choice for full-face skin rejuvenation and whitening in East Asians, Dr. Negishi said.

For each IPL treatment, Dr. Negishi first checks the patient for melasma and acquired dermal melanocytosis. She uses the UV light in a Wood's lamp to distinguish acquired dermal melanocytosis from subtle or hidden melasma rather than just to determine the area of melasma. She then uses a spectrophotometer to check the patient's skin color.

She uses a mild parameter setting for full-face irradiation, consisting of longer wavelengths at low fluences. For specific lesions, she increases the fluence, shortens the pulse width, or shortens the wavelength, using white paper to cover the area surrounding the lesion. The immediate reaction to full-face IPL should be very slight erythema in normally pigmented areas and a slight darkening of pigmented areas with pain remaining about 3-4 on a 10-point scale.

Particular attention should be paid when using IPL for full facial skin rejuvenation in patients with darker skin, such as those with type V skin or type IV plus sun damage, because of the risk of epidermal burning. For patients with darker skin or melasma, it is preferable to use a long wavelength/low fluence setting for second passes over specific lesions with white paper covering the surrounding area, she said.

In a study, Dr. Negishi and her coinvestigators used an ultraviolet filter to identify very subtle epidermal melasma in 63 (28%) of 223 East Asian patients who had previously not been diagnosed with melasma. The patients who did not use sunscreen had a significantly higher risk of the condition than those who did use it (Dermatol. Surg. 2004;30:881-6). "This type of pigmentation tends to worsen with aggressive IPL treatment," she said.

Melasma in East Asians is thought to be epidermal, caused by an increased number of melanocytes and increased activity of melanogenic enzymes, which leaves the skin at a high risk for PIH.

IPL treatment alone is not enough to remove melasma, so Dr. Negishi commonly uses topical agents (such as 2%-5% hydroquinone, 5%-10% vitamin C derivative, or 0.025%-0.4% tretinoin) or oral tranexamic acid as her first choice to use in combination with IPL.

Oral tranexamic acid has been used for treating melasma in East Asians for more than 20 years, according to Dr. Negishi. When telangiectasias are present concurrently with melasma, she uses a long-pulse 1,064-nm Nd:YAG laser to reduce the vascular lesions while also stimulating epidermal turnover.

Dr. Negishi reported that she conducted much of her research with equipment borrowed from Cutera Inc., Danish Dermatologic Development A/S, Lumenis Ltd., and Syneron Inc., but she has no financial interests with any of these companies. ■