CLASSYS

REEPOT

A stepwise Approach to Mixed Pigmented Lesions and the Clinical Role of REEPOT



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How Should Treatment Be Planned After Removal of Solar Lentigines?

Treating solar lentigines in clinical practice is more complex than it may initially appear. When viewed in isolation, an individual lesion may look like a well-defined solar lentigo; however, once the entire face is considered, treatment decisions become considerably more complicated. The skin surrounding the lentigines is often already uneven in pigmentation, and closer examination frequently reveals a subtle underlying component of melasma. Although the technical removal of solar lentigines itself may not be particularly difficult, the treatment approach must be more cautious when the subsequent course and long-term skin changes are taken into consideration. In actual clinical practice, there are often moments during consultation for solar lentigines when the clinician hesitates before the patient does. It is relatively easy to say, "This lesion can be removed," but confidently stating that "the post-treatment course will also remain stable" requires substantial clinical experience.

It is not uncommon for solar lentigines to disappear initially, only for uneven pigmentation or faint residual discoloration in the surrounding skin to become noticeable several weeks later. Patients may suspect treatment failure, while clinicians must explain that this does not necessarily represent incomplete removal of the lentigines, but rather the emergence of a pre-existing melasma component during the post-treatment skin response. These recurring clinical experiences highlight the limitations of approaching solar lentigines simply as superficial pigmented lesions. Even when the lesions themselves are successfully cleared, patient satisfaction may remain low. In many such cases, the underlying issue lies not in the lesion itself, but in how the skin responds and recovers after treatment.

REEPOT-Based Treatment of Solar Lentigines

Clinical Understanding of Mixed Pigmentary Lesions with Coexisting Solar Lentigines and Melasma

Clinically, solar lentigines and melasma are regarded as distinct conditions; however, in real-world practice, they often coexist as different phenotypic manifestations arising from a common background of photoaging. Careful examination of the skin surrounding solar lentigines frequently reveals ill-defined pigmentation or unevenness in the baseline skin tone. These findings may reflect not only increased melanin deposition but also the combined effects of dermal aging, vascular changes, and chronic low-grade inflammation.

In such mixed pigmentary lesions, even when the solar lentigines themselves are successfully removed, underlying melasma components may become more apparent during the post-treatment period, presenting as delayed recovery or pigmentary rebound. Therefore, the key to an effective treatment strategy lies not merely in removing the lentigines, but in planning for the subsequent process of skin stabilization and recovery.

Rationale for Selecting RE EPOT as the Starting Point for Solar Lentigo Treatment

These clinical considerations led the author to redefine the treatment of solar lentigines not simply as a "lesion removal procedure," but as a therapeutic process requiring comprehensive management. An important starting point in this approach was the selection of a treatment modality capable of removing solar lentigines accurately and predictably while minimizing subsequent skin reactions. REEPOT is a targeted pigment laser based on a 532 nm wavelength with high melanin absorption. It is designed to minimize epidermal damage through its VSLS (Vasculature Salvage Laser Surgery) system. By clearly defining the boundaries of each lentiginous lesion, REEPOT enables conservative, single-session targeted treatment, an approach that aligns well with the author's clinical treatment strategy.

Single-Session Treatment of Solar Lentigines with REEPOT

For the treatment of solar lentigines, a single-session targeted approach using conservative energy settings is preferred over repeated treatment. This principle is based on clinical experience suggesting that repeated stimulation while residual pigmentation remains may prolong the inflammatory response and cumulatively increase the risk of post-inflammatory hyperpigmentation (PIH). This is also the rationale for adopting single-session targeted treatment as the basic treatment principle.

When treating solar lentigines with REEPOT, the following criteria were applied. ① defining the treatment area slightly beyond the visible margins of the lesion, ② using the lowest effective energy based on minimal whitening as the clinical endpoint, and ③ immediately adjusting the energy level if excessive erythema or pinpoint bleeding occurred. Through this approach, the aim was to establish a stable starting point that would allow sufficient observation of the subsequent clinical course following removal of the lentigines.

Post-Treatment Follow-Up and a stepwise Management Strategy

Based on the author's clinical experience, the following response pattern is commonly observed during the 4-6 weeks following single-session treatment of solar lentigines: ① the lentiginous lesions resolve stably, while ② mild PIH or underlying melasma becomes more apparent in the surrounding area. At this stage, immediately performing additional

pigment-targeting laser treatment may further aggravate pigmentary instability. Therefore, rather than directly targeting the pigmentation, priority was given to strategies aimed at stabilizing the dermal environment.

Combination Treatment Protocol and Clinical Cases

Role of Needle RF

Needle RF may help mitigate the dermal environment associated with pigment aggravation by modulating microinflammatory responses within the dermis and vascular components observed up to 14 weeks after treatment. In skin with coexisting solar lentigines and melasma, this approach may help compensate for impaired dermal function, which can contribute to delayed recovery. A device capable of delivering pulsed-wave RF was selected, with the needle depth set at approximately 0.3 - 0.5 mm.

Rationale for Combining Skin Boosters

Following needle RF or laser treatment at other wavelengths, topical application of skin boosters or intradermal delivery using microneedling (MTS) was found to be effective in supporting pigment stabilization after solar lentigo removal by promoting skin barrier recovery and dermal remodeling. During post-treatment management following a single REEPOT session, this combination strategy resulted in meaningful improvements in overall skin tone uniformity and patient satisfaction.



36 year old woman with Fitzpatrick skin type III and mixed pigmentary lesions consisting of solar lentigines and melasma. Following an single REEPOT treatment needle RF and skin booster therapy were combined. Courtesy of Dr. Jong-Wook Hong.

Case 1

A 36 year old woman with Fitzpatrick skin type III presented with mixed pigmentary lesions consisting of solar lentigines and melasma. She had previously undergone multiple laser treatments at other clinics without significant improvement. Following a single REEPOT treatment, the patient was monitored at 1-month intervals and underwent four sessions of combination therapy with needle RF and skin boosters.

Case 2

A 67-year-old woman with Fitzpatrick skin type III developed moderate PIH and uneven skin tone following a single-session treatment for solar lentigines. Needle RF and skin booster treatments were subsequently performed at 1-month intervals. Combination treatment with simultaneous CO_2 laser and 1570 nm laser irradiation was also incorporated. With high patient compliance and long-term follow-up over 15 months, overall stabilization of skin tone and satisfactory clinical outcomes were achieved.



67 year old woman with Fitzpatrick skin type III. Following a single REEPOT treatment, PIH and uneven skin tone developed, and combination treatment with needle RF, skin boosters, and simultaneous CO_2 laser + 1570 nm laser therapy was performed. Courtesy of Dr. Jong-Wook Hong.

Conclusion

Solar lentigines should be understood not simply as superficial pigmentary lesions, but as a phenotypic manifestation of photoaging-related pigmentary disease that shares certain pathophysiologic features with melasma. From this perspective, treatment of solar lentigines should not end with lesion removal itself; rather, it should be regarded as a therapeutic process that also addresses subsequent skin recovery and stabilization.

Using targeted treatment of solar lentigines with REEPOT as the initial step, followed by a stepwise management strategy incorporating needle RF and lasers at other wavelengths (1570 nm and CO_2), together with skin booster treatment at each session, provided more stable and predictable clinical outcomes in mixed pigmentary lesions involving not only solar lentigines but also coexisting melasma. This approach may offer a practical treatment option that reduces the burden associated with repeated pigment-targeting laser treatments while improving satisfaction for both patients and clinicians.