SAPPHIRE SOLID STATE LASER SHOWS SIMILAR EFFICACY AND SAFETY TO 308NM EXCIMER LASER FOR LOCALIZED VITILIGO

A novel 311nm Titanium:Sapphire UV laser (TSL) demonstrates comparable efficacy and safety when compared to 308nm excimer laser in the treatment of localized vitiligo, according to a study recently published in *Lasers in Surgery and Medicine*.

Manufactured by LASEROPTEK Co. Ltd., PALLAS is a gain switched, Ti:Sapphire solid state 311nm UVB laser and is CE Marked as well as FDA cleared for UV phototherapy of psoriasis, vitiligo, atopic dermatitis, and leukoderma.

The technology negates the need for excimer gas, eliminating consumable costs and laser downtime due to gas replacement servicing, the company states.

Jung Min Bae, MD, PhD and his team at the Saint Vincent’s Hospital, College of Medicine’s Department of Dermatology at the Catholic University of Korea in Suwon, Korea, conducted a randomized controlled trial comparing a 311nm TSL with a 308nm excimer laser (EL) in the treatment of localized vitiligo. In this study, 74 paired vitiligo lesions in 21 patients were assigned to either a TSL or EL group. The lesions were treated twice weekly for 12 weeks and evaluated every four weeks, measuring and comparing the extent of re-pigmentation in each group, the study showed.

The TSL group showed similar therapeutic effect to the EL group. Particularly, re-pigmentation of 76–100 percent was
observed in 65 percent of facial lesions after 12 weeks of TSL treatment, compared to re-pigmentation of 60 percent in the EL treatment group.

In a separate animal study, 311nm TSL treatment is shown to induce expression of endothelin-1 stem cell factor and WNT7a; cytokines involved in melanocyte differentiation, proliferation, and migration.

**STUDY: TOPOGRAPHIC PHENOTYPES OF ALOPECIA AREATA AND PROGNOSIS**

A recent study published online in *JAMA Dermatology* found the topographic characteristics of hair loss should be considered when assessing patients with alopecia areata for better prognostic prediction.

A retrospective cohort study looked at 321 patients with alopecia areata who visited a single tertiary referral center between October 2012 and February 2017 and underwent four-view photographic assessment. Researchers reviewed the photographs to evaluate hair loss using the Severity of Alopecia Tool 2. They used hierarchical clustering with Ward’s method to identify topographic phenotypes of alopecia areata and differences in clinical characteristics and prognosis were compared across the clusters.

A total of 321 patients were clustered into five subgroups. Grade 1 (n = 200; major regrowth, 93.4 percent; complete regrowth, 65.2 percent) indicated limited hair loss, whereas grades 2A (n = 66; major regrowth, 87.8 percent; complete regrowth, 64.2 percent) and 2B (n = 20; major regrowth, 73.3 percent; complete regrowth, 45.5 percent) exhibited greater hair loss than grade 1. The temporal area was predominantly involved in grade 2B, but not in grade 2A, despite being comparable in total extent of hair loss. Grade 3 (n = 20; major regrowth, 45.5 percent; complete regrowth, 25.5 percent) included diffuse or extensive alopecia areata, and grade 4 (n = 15; major regrowth, 28.2 percent; complete regrowth, 16.7 percent) corresponded to alopecia (sub) totalis. No significant differences in prognosis were found between grades 2A and 1, but grades 2B, 3, and 4 had significantly poorer response. Among multiple models, the cluster solution had the greatest prognostic performance and accuracy. The tree model of the cluster solution was converted into the Topography-based Alopecia Areata Severity Tool (TOAST), which revealed an excellent interobserver reliability among four dermatologists.

The study authors concluded that temporal area involvement should be independently measured for better prognostic stratification and that the TOAST is an effective tool for describing the topographical characteristics and prognosis of hair loss and may enable clinicians to establish better treatment plans.

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