

## **ALA, PDT team up: Combination laser therapy proves effective for treatment of acne**

**New Haven, Conn.** — The vast potential of laser and light therapy used in the treatment of various dermatoses and cosmetic indications has not yet been fully realized, as new indications for this therapeutic modality come to light. One novel and emerging indication uses laser light in combination with topical therapies to treat mild-to-severe acne lesions, achieving very positive long-term results.

"Cornerstone therapies for the treatment of acne include topical, systemic and hormonal approaches, all of which can achieve varying degrees of success. The supplementation of laser therapy to standard topical regimens can significantly improve the clinical symptoms of acne and achieve a long-term clearance of lesions," says Macrene Renee Alexiades-Armenakas, M.D., Ph.D., F.A.A.D., assistant clinical professor of dermatology, Yale University School of Medicine, New Haven, Conn. ALA-PDT study

Dr. Alexiades-Armenakas recently conducted a study in 14 patients with mild-to-severe acne, evaluating the efficacy and safety of a combination of photodynamic therapy (PDT) with topical 5-aminolevulinic acid (ALA) activated by long-pulse, pulsed dye laser. Depending on the severity of lesions, patients received one to five treatments (average of three treatments) of ALA-PDT and continued to use their topical acne therapies during and after the study.

Four control patients were treated with conventional treatments consisting of either topical, antibiotic or oral contraceptive therapy or with laser energy without ALA-PDT. The mean follow-up time was 6.4 months.

Results showed that all of the patients who received ALA-PDT treatments had a complete clearance of their acne, with improvements of lesions seen as early as one to two weeks after the first treatment. None of the control patients who were treated with either laser energy alone or conventional therapy achieved complete clearance of their acne lesions.

The clearance rate of acne lesions in the ALA-PDT group was 77 percent per treatment, whereas only 32 and 20 percent clearance was achieved in the laser alone group and conventional therapy alone group, per month, respectively.

According to Dr. Alexiades-Armenakas, this is the first study of its kind that seriously looked at the possibility of using photodynamic therapy with newer light sources for the treatment of acne. Past studies using PDT with red light therapy in the treatment of acne lesions have been tried, but due to the intolerable side effects, the approach was largely abandoned.

"In this study, I was able to clear my patients with an average of three treatments and have been able to reproduce these results in many other acne patients outside of the study. I believe that the reason why my patients stay as clear as they do for as long as they do is because they are being maintained on topical therapy such as topical retinoids.

"In order to achieve these excellent results, however, patients must comply to the treatment protocol and potentially follow up with a single yearly re-treatment," Dr. Alexiades-Armenakas tells **Dermatology Times**.

The side effects seen in the trial patients who received ALA-PDT treatment were minimal, including a mild erythema that lasted up to 48 hours. According to Dr. Alexiades-Armenakas, the ALA-PDT treatment is also safe in patients of color, as no complications were seen such as hyperpigmentation.

Dr. Alexiades-Armenakas always tries to start her patients off with conservative/conventional treatments. In more severe and resistant cases, or where other systemic therapies such as oral isotretinoin are less of an option, such as in depression, liver disease or inflammatory bowel disease, ALA-PDT could represent a treatment solution.

According to Dr. Alexiades-Armenakas, topical therapy is excellent for prevention, but it is less optimal for cure. Patients should be kept on topical therapy in order to prevent or postpone a recurrence rather than as a complete cure for a bad outbreak of acne.

"We hold isotretinoin as a gold standard for severe acne, but this gold standard is far from perfect, as there is a lot of potential toxicity and side effects involved with the therapy, as well as treatment failures — not to mention the formidable cost involved with therapy. Therefore, we need to have a mainstream and viable alternative therapy to oral isotretinoin, and I think that PDT shows a lot of promise here," Dr. Alexiades-Armenakas says.