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STUDIES SHOW COMBINATION LASER THERAPY EFFECTIVE AT CLEARING ACNE, REDUCING OIL PRODUCTION

*Dermatologist evaluates the latest laser and light sources
approved for treating acne*

SAN FRANCISCO (March 5, 2009) – From the removal of childhood birthmarks to skin rejuvenation, laser technology has become a mainstay in dermatology. Now, dermatologists are fine-tuning this technology to safely and effectively treat one of the most common skin conditions that plagues teenagers and adults alike: acne.

Speaking today at the 67th Annual Meeting of the American Academy of Dermatology (Academy), dermatologist Macrene Alexiades-Armenakas, MD, PhD, FAAD, assistant clinical professor of dermatology at Yale University School of Medicine in New Haven, Conn., presented scientific data illustrating how photodynamic therapy combined with a long-pulse, pulsed-dye laser and topical 5-aminolevulinic acid provides long-lasting clearance of acne lesions.

“Laser technology has made great inroads in the treatment of acne, which until recently has been treated almost exclusively – and with varying degrees of success – with topical, systemic and hormonal medications,” said Dr. Alexiades-Armenakas. “Now, we have solid evidence-based medicine supporting the effectiveness of certain laser therapies as a long-term solution for treating active acne. The key is to distinguish the benefits and limitations of these available technologies and select the most effective treatments for each acne patient.”

Photodynamic Therapy with a Photosensitizer

In a preliminary study, Dr. Alexiades-Armenakas examined whether a combination of photodynamic therapy (PDT) with a photosensitizer known as topical 5-aminolevulinic acid (ALA) and activated by long-pulse, pulsed dye laser

could safely and effectively clear mild to severe cases of acne. PDT works by using laser or light energy – in this case a pulsed dye laser was used – to activate the ALA, which is a solution that penetrates into the oil glands and is applied to the skin one hour prior to treatment. As it penetrates, ALA binds to the oil glands and sensitizes the cells to light.

The 14 patients treated with ALA PDT received one to six treatments depending on the severity of their acne and continued to use topical medications during and after the study. The control group consisted of four patients who were either treated with conventional therapy (such as systemic or topical medications) or with laser energy but without ALA PDT.

Upon analyzing the data, Dr. Alexiades-Armenakas found that all (100 percent) of the 14 patients in the ALA PDT treatment group experienced complete clearance of their acne. She reported that an average of 2.9 ALA PDT treatments was administered to this patient group and improvement in the acne lesions was visible within one to two weeks after the first treatment. By comparison, none of the four patients in the control group who were treated with either laser energy alone or conventional therapy achieved complete clearance of their acne.

“The first-of-a-kind study found this particular form of photodynamic therapy used in conjunction with topical therapy to be the first such treatment to achieve complete clearance of acne up to 13 months post treatment and a 77 percent clearance rate per treatment. Four subsequent studies conducted by other investigators involving an additional 75 patients demonstrated similar results,” said Dr. Alexiades-Armenakas. “Patients also experienced an added benefit of significant improvement in their acne scars, as the pulsed dye laser offers superior penetration to the deeper layers of the skin where scars form.”

Side effects were limited to mild redness that lasted for 48 hours, and the treatment was found to be safe even for patients of color with no complications, such as hyperpigmentation.

In her practice, Dr. Alexiades-Armenakas doesn't recommend ALA PDT as a first-line therapy for treating acne and initially tries to clear the condition using topical or systemic medications, including isotretinoin. However, she noted that some patients are

not good candidates for isotretinoin based on their medical history or they may have tried this therapy and did not respond favorably to it. In cases where other therapies have failed, she said ALA PDT is an excellent option that delivers dramatic results for the majority of patients.

For patients with intermittent acne flares and pronounced oily skin with large pores, ALA PDT treatment with a 1450nm diode laser that heats the deep layer of skin where the oil glands are located has been shown to help these patients in as little as one to three treatments. “Typically, women aged 35 to 50 most often experience this pesky type of acne with noticeably oily skin and visible pores,” said Dr. Alexiades-Armenakas. “In my experience, I have found that combination ALA PDT treatment with a 1450 nm diode laser results in remarkably significant oil reduction and a decrease in pore size with acne clearing. Even oily skin can negatively impact one’s quality of life, and my patients are so happy that there is finally a treatment that can help this condition.”

Another variation of PDT therapy that is being investigated uses the photosensitizer topical methyl-aminolevulinic acid (MAL) with either PDT or red light. Dr. Alexiades-Armenakas noted that MAL may have better specialized absorption into acne cysts than ALA, but – for reasons not entirely known at this point – it has not yet been found to improve oily skin.

“Although early studies with MAL and PDT or red light appear to be promising, we have to make sure it doesn’t have side effects commonly associated with red light – such as blistering, scabbing or hyperpigmentation,” cautioned Dr. Alexiades-Armenakas. “This still leaves open the possibility of combining MAL with alternative light sources.”

Other Approved Laser and Light Therapies

A photopneumatic technology using broadband light between 400nm and 1,200nm combined with a vacuum device that suctions the skin to remove oil to clear acne is another new therapy approved by the U.S. Food and Drug Administration (FDA). However, Dr. Alexiades-Armenakas believes more long-term clinical studies need to be conducted, as the data is based on early reports of efficacy. In addition, she

noted that when the skin is suctioned to remove oil, some patients complained that their pores actually appeared larger – possibly from the skin being stretched from the repeated suctioning.

The other device approved by the FDA for the treatment of acne is the 1550nm fractionated laser, which thermally burns tiny columns of tissue. In her opinion, Dr. Alexiades-Armenakas finds that this therapy – while appropriate for clearing acne scars – does not specifically target oil glands or address the underlying cause of acne. She added that reports show more recurrence of acne with the fractionated laser and a large number of patients studied did not sustain acne clearance long term.

“While FDA approval is certainly important when considering any type of acne procedure or otherwise, it does not guarantee that an approved treatment will work for you or provide a long-term solution for your condition,” said Dr. Alexiades-Armenakis. “Selecting one of the new laser or light therapies for acne should be a decision based on discussions between the patient and the dermatologist to ensure the best treatment outcome.”

To learn more about acne, visit the AcneNet section of www.skincarephysicians.com, a Web site developed by dermatologists that provides patients with up-to-date information on the treatment and management of disorders of the skin, hair and nails.

Headquartered in Schaumburg, Ill., the American Academy of Dermatology (Academy), founded in 1938, is the largest, most influential, and most representative of all dermatologic associations. With a membership of more than 15,000 physicians worldwide, the Academy is committed to: advancing the diagnosis and medical, surgical and cosmetic treatment of the skin, hair and nails; advocating high standards in clinical practice, education, and research in dermatology; and supporting and enhancing patient care for a lifetime of healthier skin, hair and nails. For more information, contact the Academy at 1-888-462-DERM (3376) or www.aad.org.

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