

Treating Myriad Problems

532 nm laser addresses multiple acne pathogens

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More than 50 percent of acne vulgaris patients treated with a 532-nm laser showed improvement.

(Photos Min-Wei Christine Lee, M.D.)

New Orleans — More than 50 percent of acne vulgaris patients treated with a variable pulsed 532 nm laser concurrent with cleansers and topicals maintained results — including fewer flare ups and clearance without relapse — for more than four months. The results stem from a three-year study of acne patients facilitated by Min-Wei

Christine Lee, M.D., M.P.H., director and dermatologic surgeon, East Bay Laser & Skin Care Center, Walnut Creek, Calif., and clinical instructor,

University of California, San Francisco. “We found that the Laserscope Aura 532 nm laser treats a multitude of problems associated with acne, including discolorations, scarring, and sebum production.

The Aura 532 is traditionally used for vascular facial lesions. While conducting studies evaluating this device for non-invasive rejuvenation, Dr. Lee noted that many patients showed a decrease in the severity of their acne. This led to a study of the Aura for acne vulgaris.

“Many of the light and laser devices are able to destroy the Propionibacterium

acnes that causes acne,” Dr. Lee said. For instance, a study of the 1450 nm diode laser showed up to a 98 percent clearance of inflammatory acne after four months, and histology depicting thermal damage of sebaceous glands. (DY Painthanker, EV Ross, et al. *Lasers in Surg & Med* 2002;31:106-114).

“The advantage of the Aura 532 nm laser is that it addresses the whole array or gamut of acne. Because of its high absorption by oxyhemoglobin and melanin, there’s collateral damage to the sebaceous glands so it decreases sebum production. Additionally, because it’s also a visible light, it’s very specific to the porphyrins produced by propionibacterium causing a photo toxic effect that kills the bacteria responsible for the inflammatory acne lesions,” she reported at the American Society of Dermatologic Surgeons (ASDS) meeting here.

In Dr. Lee’s study, 175 patients ranging in age from 11 to 54 years were separated into three groups and treated for mild to severe acne involving the face, chest, back, or arms. The first group of 25 patients received only Aura laser treatments without benefit of topicals or cleansers. A second group of 25 patients received Aura laser treatments and were instructed to use cleansers and topicals after finishing a series of six treatments. The third group of 125 patients used cleansers and topicals concurrently with the laser treatments. Treatments were performed weekly for up to six treatment sessions.

A 4-mm hand piece with continuous contact cooling, 30 to 40-millisecond pulse duration with 6-12 J/cm² was used. The settings and number of passes varied depending on skin type and severity of acne. Patients were observed from six to 24 months following the last treatment.

In the third group receiving laser treatments and topicals, improvement in 80 percent to 90 percent of patients was evident after just one treatment, according to Dr. Lee. After four weekly treatments, all the patients showed significant improvement of non-inflammatory, inflammatory and total facial lesions, and 80 percent of the patients showed 80 percent to 95 percent improvement of inflammatory lesions. After six treatments, 90 percent of the patients showed 80 percent to 95 percent improvement of inflammatory lesions. In all, lesion reduction ranged from 60 percent to 100 percent. Sebum production was also reported to be decreased. No side effects were observed.

In the first group receiving laser only, the rate of response was slower. After two treatments, 80 percent showed improvement. After six treatments, average clearance rate was 60 percent to 70 percent. Lesion reduction ranged from 30 percent to 80 percent.

In the second group receiving laser treatments followed by maintenance with topicals, the rate of response was about the same as the group without topicals, according to Dr. Lee.

Patients receiving laser only had slower response rates, more flares between treatments, decreased clearance, and faster relapse rates, Dr. Lee reported. The group receiving cleansers and topicals after finishing laser treatments had longer periods without relapse than the group without topi-



A study with the Aura 532 nm laser showed that treatment is safe and effective for inflammatory acne vulgaris. The improvement seen is comparable to oral antibiotics. (Photographs Min-Wei Christine Lee, M.D.)

cal. “The patients using cleansers and topicals concurrently with the laser treatments had the highest clearance, less flares, and maintained clearance without relapse for longer periods of time. More than 50 percent of patients from this last group maintained results over four months without requiring another treatment,” she said.

“This study showed that treatment with the Aura 532 nm laser is a safe and effective treatment for inflammatory acne vulgaris,” Dr. Lee said. “The improvement is comparable to oral antibiotics, but with a faster clinical response time and without the side effects associated with chronic use of anti-acne medications,” she added. “Laser treatments are particularly useful for patients unresponsive to traditional therapies.”

Because the Aura 532 nm laser stimulates collagen production, Dr. Lee pointed out it also provides some cosmetic rejuvenation such as tightening pores and improving skin tone, texture, and superficial acne scars.

Dr. Lee has no financial interest in the lasers mentioned in this article. **DT**

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