

Longer Wavelengths Key to Laser Tx of Leg Veins

BY DOUG BRUNK
San Diego Bureau

LAS VEGAS — About 8 years ago, Dr. Neil Sadick and other dermatologic surgeons nearly gave up on lasers as a treatment option for leg veins because of the high rate of complications that they were seeing.

"We were using shortwave technologies delivered at low energies," Dr. Sadick recalled at the annual meeting of the Inter-

national Society for Dermatologic Surgery. "We were impeding vessels and using up-regulation of inflammatory cytokines, not causing endothelial destruction, so the results were not good. We were seeing lots of side effects, lots of superficial burns."

However, thanks to the advent of lasers with longer wavelengths and multimodal technologies since that time—the Lux1064+ (Palomar Medical Technologies Inc.), the CoolGlide Excel (Cutera Inc.), and the Cynergy III (Cynosure

Inc.)—greater clinical efficacy has been achieved. "No laser is a substitute for sclerotherapy," said Dr. Sadick, of the department of dermatology at Cornell University, New York. "That remains the gold standard. But with the use of longer wavelengths we are able to achieve great results in this setting."

Theoretical problems intrinsic to laser therapy in treating leg veins include increased hydrostatic pressure, compared with that required for treating facial

telangiectasias. "It is going to be more difficult to eradicate lower extremity vessels even if they're small unless you address the hydrostatic pressure," he said. "We don't have these same concerns in dealing with facial veins."

In addition, compared with facial telangiectasias, lower extremity vessels are located deeper in the dermis, are larger, and have increased basal lamina. "We have also shown that there are altered cytokine patterns when you induce light on the legs, compared with that of the face," Dr. Sadick said. "There is much greater regulation of inflammatory cytokines. That's why we usually don't go back and retreat lower extremity veins for at least 8 weeks."

Dr. Sadick favors a monomodal approach for the laser treatment of leg veins. For vessels smaller than 1 mm his published recommendations include a spot size of 1.5 mm, a fluence of 150-400 J/cm², and a pulse duration of 15-30 milliseconds (Dermatol. Surg. 2003;29:916-9). For vessels 1-3 mm in size he recommends a spot size of 3 mm, a fluence of 100-250 J/cm², and a pulse duration of 30-50 milliseconds.

"A number of studies have shown nice results using 1,064-nm and 1,320-nm technologies, but most people are using 1,064-nm technologies today," he said, noting that most of his patients who present for treatment of leg veins undergo a combination of sclerotherapy and external laser therapy.

In his clinical experience one to three laser treatment sessions are needed for optimal results. "Because you have so much upregulation of cytokines over a long period of time, we wait 8-12 weeks between treatment sessions," Dr. Sadick said. "I've found that if you go back too quickly you get more hypopigmentation, more potential for hypopigmentation, and you're inducing more inflammation which theoretically could induce more neovascularization."

Complications from using 1,064-nm lasers can occur with pulse stacking, especially with longer wavelengths. "The good news about 1,064-nm lasers is that they deliver high energy so you can get efficient eradication of the vessels," Dr. Sadick said. "The bad news is that they are painful. They penetrate deeply so sometimes you need to use analgesia. Also, there is an increased incidence of epidermal necrosis, so you need to be very gentle with these technologies."

Problems can also occur with improper matching of skin type and wavelength. "If someone is tanned or of a darker skinned phenotype, it's important to be conservative or do a spot test first," he advised. "Also, be sure you address hydrostatic pressures. If you use an external laser, a key way to not have successful results is to not treat a small refluxing vein or tiny varicosity before you use a laser to try to eradicate it. That will give you a high complication profile."

Dr. Sadick disclosed that he has received workshop funding and discounted equipment from Syneron Medical Ltd. and Laserscope and workshop funding from Cutera. ■



8th Annual Caribbean Dermatology Symposium

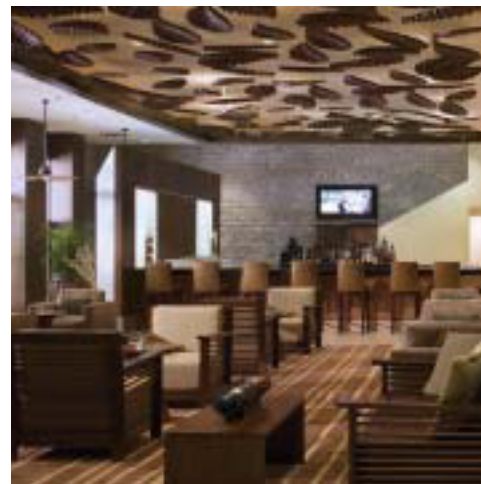
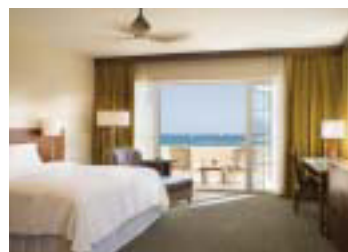
January 20-24, 2009

The Westin Dawn
Beach Resort & Spa

St. Maarten, Netherlands
Antilles

A CONTINUING MEDICAL EDUCATION
CONFERENCE

Jointly Sponsored by



Get up-to-date on the latest in medical dermatology and the diagnosis and treatment of various dermatological conditions, including:

- Acne
- Rosacea
- Psoriasis
- Contact Dermatitis
- Atopic Dermatitis
- Pediatric Dermatology
- HIV Disease
- Practice Management
- Photosensitivity & the Use of Sunscreens

Register at www.caribederm.org

This activity has been approved for 17 AMA PRA Category I Credits™

This activity is supported, in part, by educational grants from:

- Abbott ■ Centocor ■ 3 Gen ■ Johnson & Johnson ■ Medicis ■ PharmaDerm
- Quinova ■ Ranbaxy ■ Stiefel ■ Triax

Directors and Faculty

Joseph F. Fowler, Jr., MD
Vincent A. DeLeo, MD
J. Mark Jackson, MD
James G. Marks Jr., MD
Jorge L. Sanchez, MD
Andrew F. Alexis, MD
Bryan E. Anderson, MD
Hilary E. Baldwin, MD
Eric W. Baum, MD
Jeffrey P. Callen, MD
Jennie T. Clarke, MD
Charles N. Ellis, MD
David Fivenson, MD
Leon H. Kircik, MD
William M. Parsley, MD
Theodore Rosen, MD
Kathryn A. Zug, MD