

# Two-Wavelength Laser Effective for Blood Lesions

BY MITCHEL L. ZOLER  
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GRAPEVINE, TEX. — A single laser device that can sequentially deliver both 585-nm and 1,064-nm laser pulses was effective for treating thick port-wine stains, facial telangiectasias, and leg veins in three separate studies reported at the annual meeting of the American Society for Laser Medicine and Surgery.

The Cynergy multiplex laser marketed by Cynosure is approved by the Food and Drug Administration, and is “clearly a nice advance,” commented Dr. Jeffrey S. Dover, a dermatologist in private practice in Chestnut Hill, Mass., and cochairman of the session where the three reports were presented.

Many dermatologists have just begun to work with this device, which can sequentially fire a pulsed dye laser beam followed by an Nd:YAG beam with an intervening delay of as little as 50 milliseconds. “The marvel of this technology is to have two wavelengths in one box that fire sequentially and not fail. It’s technically tricky,” said Dr. Dover, who is also on the dermatology faculties at Yale University,

New Haven, Conn., and Dartmouth Medical School, Hanover, N.H. He had no disclosed relationships with Cynosure.

Deciding how to optimally use this capability is “very complex, with a lot of parameters to choose from. It will take time to get the ideal settings,” Dr. Dover said. “We’ve seen some port-wine stains that were stuck but then started to clear with this new laser. I think that in a year we’ll see some very nice data” from use of the new laser.

The rationale behind the dual laser system is that an initial pulse from a pulsed dye laser at 585 nm generates heat within blood-containing vessels that converts oxyhemoglobin to methemoglobin. Methemoglobin is 3-5 times better able to absorb energy from an Nd:YAG laser at 1064 nm, which makes the sequential laser treatment more efficient than either of these two light energies is on its own.

The port-wine stain study reported at

the meeting included 20 adults with lesions that had failed to improve by more than 20% following at least two treatments with a conventional pulsed dye laser at 595 nm.

Dr. Ashraf Badawi and his associates at the Laser Institute at Cairo (Egypt) University used the multiplex laser to first deliver 7.0-7.5 J/cm<sup>2</sup> from the pulsed dye laser, followed by 60-80 J/cm<sup>2</sup> from the Nd:YAG laser. Patients received an average of four treatments given at 3- to 4-week intervals. At the end of treatment, all patients had at least a 70% improvement, said Dr. Badawi, a dermatologist at Cairo University. Dr. Badawi did not have any financial disclosures for this study.

The study of facial telangiectasias enrolled 20 patients who were treated on a split-nose basis. One side of each nose was treated with sequential laser energy, first with a 10-millisecond pulse from the pulsed dye laser, using a 7-mm spot size and fluence of 10 J/cm<sup>2</sup>. This was fol-

lowed after a 100-millisecond delay by a 15-millisecond pulse from the Nd:YAG laser at a fluence of 70 J/cm<sup>2</sup>. The other side of each nose was treated with either a pulsed dye or an Nd:YAG laser only.

After a single treatment, 18 of the sides treated with both lasers had at least 50% improvement in their telangiectasia appearance, compared with 4 of the 20 sides treated with a single laser reaching this level of improvement, reported Dr. Syrus Karsai, a dermatologist at the Laser Clinic in Karlsruhe, Germany. Dr. Karsai had no financial disclosures for this study.

The study of patients with leg veins included 25 patients. After two treatments with the multiplex laser, 19 patients had at least 50% clearance of their visible leg veins, and the remaining 6 patients had at least 25% clearance, reported Dr. Robert Adrian, a dermatologist in private practice in Washington. His regimen involved treatment with a 10-millisecond pulse of the pulsed dye laser with a 7-mm spot size and 7-8 J/cm<sup>2</sup>. After a 50-150-millisecond delay, the Nd:YAG was fired for 40 milliseconds with a 7-mm spot size and 60-70 J/cm<sup>2</sup>. Dr. Adrian received equipment from Cynosure. ■



**‘We’ve seen some port-wine stains that were stuck but then started to clear with this new laser.’**

DR. DOVER

## European Consensus Statement Offered on Foam Sclerotherapy

BY TIMOTHY F. KIRN  
Sacramento Bureau

SAN DIEGO — European experts in foam sclerotherapy have updated their recommendations regarding how to perform foam sclerotherapy. Those recommendations include one that foam as viscous as possible should be used, and that only a 2%-3% mixture of polidocanol is needed for the greater saphenous vein, Dr. Nick Morrison said at the annual meeting of the American Venous Forum.

At the second European Consensus Meeting on Foam Sclerotherapy in April 2006, 26 European experts and 1 American expert were surveyed about their practices, and the survey was used to update recommendations originally made in 2003, said Dr. Morrison, president-elect of the American College of Phlebology and a surgeon who practices in Scottsdale, Ariz.

Dr. Morrison said the document that emerged from that survey included consensus statements on the following:

► **Access material.** The majority of experts use direct puncture to access the great saphenous vein, and for the great and small saphenous vein, most use a needle or a short catheter for access, though some use larger needles or a long catheter for larger veins.

► **Access location.** For the great saphenous vein accessed by direct puncture, the preferred access location of most experts is the proximal thigh. When a long catheter is used, however, access below the knee is preferred. For the small saphenous vein, access is preferred at the proximal or middle part of the calf.

► **Foam.** Foam should be made as viscous as possible, and the amount of foam used should be small and limited, even if that means a second procedure, the experts concurred. The av-

erage amount of foam used by the experts per puncture was up to 6 mL, and the maximum volume was up to 8 mL. Eighty-five percent of the experts used less than 10 mL per session. The consensus was that 10 mL was the maximum amount of foam that should be used per leg and per session. Most experts use 2%-3% polidocanol, and most use liquid rather than foam for telangiectasias.

► **Foam preparation.** For the preparation of foam, the Tessari and the DSS/Tessari methods are recommended in all indications. Most experts are using a 4:1 liquid:gas ratio, with air being the most commonly used gas component, though CO<sub>2</sub> and O<sub>2</sub> can also be used.

► **Safety.** Most of the experts do not use a catheter with a balloon to control the flow of foam; in fact, some believe it is better to have some minor seep rather than a large bolus released at once when the balloon is deflated. A slight majority of the experts uses a limited amount of foam per puncture and per session to increase safety.

Most advise that the puncture site be a minimal distance of 8-10 cm from the saphenofemoral and saphenopopliteal junctions. Immediate compression over the puncture site should be avoided, and most experts use echographic control of foam location.

► **Contraindications.** A relative contraindication is a patent foramen ovale. Patients with a known, asymptomatic foramen ovale should rest in a supine position longer, from 8 to 30 minutes.

► **Compression.** The great majority of experts see a need for compression after treatment of a saphenous vein, its tributaries, perforating veins, and vascular malformations. About half of the experts use compression for treated reticular veins and telangiectasias. ■

## Foamy Future Predicted for Treatment of Varicose Veins

BY TIMOTHY F. KIRN  
Sacramento Bureau

SAN DIEGO — Foam sclerotherapy will soon be considered the standard of care for treating varicose veins, if it isn’t already, Dr. John Bergan predicted at the annual meeting of the American Venous Forum.

“We have reached the point where foam has taken over,” said Dr. Bergan, professor of surgery at the University of California, San Diego. “Put your laser on eBay because you are not going to be told this, but foam can do everything.”

Insurance companies still generally consider foam sclerotherapy an investigational technique. But over the last 10 years, there have been at least 50 articles dedicated to some aspect of, or experience with, the technique, Dr. Bergan said.

Those publications indicate efficacy of immediate and primary venous occlusion of better than 80%, and that foam is 10 times stronger than liquid. They suggest that repeating the procedure when it fails the first or second time produces a success rate approaching 95%, and recurrence occurs only about 20% of the time, at 5 years.

In at least 70% of cases with saphenous vein reflux, there is no need to treat or strip the saphenous vein, because treating the varicose veins with foam will resolve the reflux or cause the saphenous vein to occlude.

Moreover, severe complications are extremely rare and allergic re-

actions to polidocanol just do not occur, he added.

A couple of years ago, his group was planning to buy a laser, but their experience with foam changed their minds, Dr. Bergan said.

Since January 2002, his group has treated 869 patients with foam sclerotherapy, and the vein-closure success rate at 1 year, with one or two treatments, has been 90%. And that group of patients has included 66 patients with active leg ulcers, unstable healed ulcers, or disabling lipodermatosclerosis.

There have been 13 adverse events total, of which 4 were ocular symptoms (which resolved), 3 were cases of dry cough, 2 were cases of migraine, 2 were cases of chest pain, and 2 were myoclonus and giddiness. In addition, there were three cases of deep vein thrombosis (two gastrocnemius thrombi, one posterior tibial thrombosis). Since last year, the group has instituted a policy of keeping the treated legs elevated at 45 degrees for 10 minutes after injection, and in 134 patients, there have been no adverse events.

Foam is as effective as laser or radiofrequency ablation, he said. The big difference is cost, with the generator for laser or radiofrequency costing about \$30,000 and foam costing about \$10.

“The literature is here,” he said. “If your insurance company gives you a hard time, call me. I’ll give you 50 references, or you can find them yourself on PubMed.” ■