Compression Handpiece Key to Reducing Purpura

BY MITCHEL L. ZOLER
Philadelphia Bureau

GRAPEVINE, TEX. — Purpura-free treatment of facial lesions was achieved by combining a modified-pulse format of a pulsed dye laser with skin compression to blanch out blood during treatment.

With this technique "the risk of purpura was virtually eliminated" when treating telangiectasias and lentigines, Dr. Kenneth J. Galeckas said at the annual meeting of the American Society for Laser Medicine and Surgery.

The study used a new type of 595-nm pulsed dye laser that was designed to deliver energy as a series of eight sequential micropulses, in which no single pulse exceeds the temperature threshold within a blood vessel for causing purpura. This laser is marketed as the Vbeam by Candela Corp. Dr. Galeckas and his associates received equipment from Candela.

The second element of the protocol was to use a compression handpiece that allows the physician to compress a small area of target skin just before the laser is fired. The compression squeezes blood from the tissue, providing less of a target for stray energy absorption that could result in purpura.

The technique was tested on 20 patients with skin types I-III. Each patient received three treatments, involving two passes, at 3-4 week intervals. The first pass used a 10-mm spot size and 6.5-8.0 J/cm^2 with a 1.5-ms pulse duration. The second pass used a 10-mm spot size with 9.5-10.0 J/cm^2 and a 20-ms pulse duration, with cryogen-spray cooling.

Purpura occurred in 8 of the 20 patients during their first round of treatment, but it did not occur in any patient during the subsequent two rounds. In total, purpura occurred in 8 of 60 (13%) treatments. All of the purpura episodes occurred when patients were treated too quickly, before the compression handpiece had an adequate opportunity to blanch out surface blood. Once excess treatment speed was recognized as a problem, no additional purpura occurred, said Dr. Galeckas, a dermatologist at the Naval Medical Center San Diego.

Treatment response was assessed after the third treatment. The appearances of dark lentigines and small telangiectasias each were improved by 85%. Light lentigines were improved by 63%, and large telangiectasias were improved by 42%. ■

New Trial Laser Creates Fractional Photothermolysis

GRAPEVINE, TEX. — Fractional splitting of a laser beam has been combined with selective photothermolysis to produce a new tool for dermatologic surgery.

By combining the spatial selectivity of fractional technology with wavelength selectivity, fractional photothermolysis "offers a new and unique opportunity for precise targeting of hemoglobin and melanin-containing targets" using a Nd:YAG laser with a 1,064-nm wavelength, Dr. E. Victor Ross said at the annual meeting of the American Society for Laser Medicine and Surgery. He predicted that the new laser will be extremely useful for treating resistant melasma, nevus of Ota, tattoos and—most likely—port-wine stains.

The investigational device is made by Palomar Medical Technologies Inc. as part of their StarLux series. Dr. Ross has received equipment, consulting fees, research grants, and honoraria from Palomar.

As of April, Dr. Ross and his associates had treated only a few patients, but with good results. Treated lesions included blood vessels that had not responded to conventional laser treatment, and port-wine stains.

He emphasized that the settings for various clinical applications had not yet been optimized.

The system uses a 10-mm spot size, with a 1-mm or 1.3-mm pitch beam array. The system can deliver a maximum fluence of 600 mJ/microbeam, but for the clinical applications so far, Dr. Ross used 430 mJ/microbeam, with a 30-ms pulse duration.

The high microbeam energy level allows deep beam penetration, which should be helpful for treating port-wine stains, said Dr. Ross, director of the laser and cosmetic dermatology unit at Scripps Clinic, San Diego.

—Mitchel L. Zoler