

SPECIAL REPORT: LASERS

308nm laser promotes repigmentation of striae

BY NANCY GROVES STAFF CORRESPONDENT

Atlanta — The 308nm excimer laser, currently used for treatment of psoriasis and vitiligo, could also be effective in the treatment of other losses of pigmentation, including stretch marks, according to David J. Goldberg, M.D., J.D..

“It’s already been proven effective in treating psoriasis. It clearly is effective in treating vitiligo. It seems to play a role in repigmenting some scars,” said Dr. Goldberg, dermatologist and director, Skin Laser and Surgery Specialists of New York and New Jersey, and director, laser research and Mohs surgery, Mount Sinai School of Medicine.



Dr. Goldberg

In vitiligo, the laser causes the melanocytes in the white patches to produce pigment. “It’s a natural jump from that to seeing if it can be used to treat other losses of pigmentation, and stretch marks are one,” Dr. Goldberg said. He and his colleagues conducted a study involving 10 female patients, ages 20 to 45, to investigate the effect of the 308nm XTRAC excimer laser treatment system (PhotoMedex) on mature, hypopigmented atrophic striae. The patients represented a full range of skin types and had no previous treatment of striae.



Striae before (left) and repigmentation six months after seven treatments with 308nm excimer laser. (Photographs courtesy of David J. Goldberg, M.D., J.D.)

“We found in fact that we were able to repigment the stretch marks,” Dr. Goldberg said. “Some of the patients had the stretch marks totally repigmented, some partially, but everybody had a response.” Treatment improves stretch marks’ color but not atrophy.

Within the 100 percent overall response rate, 70 percent of the patients were judged to have cosmetically acceptable improvement in pigmentation, Dr. Goldberg said. While treatment improved the color of the stretch marks, it did not affect the atrophy.

Patients received up to 10 treatments; most individuals required three to eight sessions. Treatments were continued until the patient had a 75 percent or greater increase in pigment in the treatment area.

Treatments were given once or twice a week at an energy level of 150 mJ to 1,000 mJ. Treatment began at an energy level equal to the minimal erythema dose, and

the dose was increased by about 10 percent at each visit until posttreatment erythema was achieved.

The laser seemed to work better on larger or wider stretch marks than on thinner marks, Dr. Goldberg said. “The reason for that had to do with the delivery system of the laser. The delivery system had a large spot size, and it was very hard to confine it to fine, thin stretch marks,” he said.

That problem can be corrected with a new handpiece that allows physicians to adjust the spot size, Dr. Goldberg said. Better results were achieved later, with other patients, when a diaphragm was added to the handpiece that allowed the physician to choose a spot size between 0.2 cm and 1.8 cm.

He added that 60 percent of the patients had pigment splaying beyond the stretch mark, due to the large 1.8- by 1.8-cm spot size. There were no significant side effects.

“We noted no scarring and no blistering at any point in the study,” Dr. Goldberg said.

In addition, there was little or no patient discomfort. “One nice thing about this laser is that it’s the only laser we have that doesn’t cause any pain at all,” he said.

When patients were evaluated six months after their last treatment, “Everybody still had some effect from the laser,” Dr. Goldberg said. “It’s expected that some of the pigmentation will wane in time and that retreatments may be necessary, but it seems that the results do last.”

Dr. Goldberg presented his findings here at the annual meeting of the American Society for Laser Medicine and Surgery. The study he presented at the meeting covered data on the initial 10 patients; at least 35 have been treated since the physicians in Dr. Goldberg’s practice first began using the 308nm excimer laser.

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David J. Goldberg, M.D., J.D.
Mount Sinai School of Medicine

Like the initial cohort, all subsequent patients have shown some improvement in pigmentation, Dr. Goldberg said.

He and his colleagues have begun electron microscopy studies to determine the mechanism of action of the laser in repigmentation of striae. Already approved for

the treatment of vitiligo and psoriasis and effective in the treatment of striae in preliminary studies, the 308nm excimer laser has other potential uses as well, Dr. Goldberg said.

“We also can use this laser to repigment other white scars, from postlaser resurfacing hypopigmentation to people who’ve had facelifts whose scars are white, to other traumatic scars,” he said. “It’s based on the premise that there are some melanocytes there. If you have such a terrible scar that there are no melanocytes, then it will not repigment.” The laser has recently been FDA approved for a variety of leukodermas.

Three fellows working with Dr. Goldberg this year were co-investigators on the study: Dale Sarradet, M.D., Musarrat Hussain, M.D., and Luisa Garcia-Solana, M.D. DT

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