Lasers, PDT May Have Niche in Cancer Treatment

By Jeff Evans
Senior Writer

Baltimore — Lasers and light therapies have a limited role in the treatment of skin cancers and pigmented lesions, but their judicious use may be appropriate when standard treatments would be time consuming or unappealing, according to a report in the September 2006 issue of the American Journal of Dermatologic Surgery.

Use of a CO2 laser in continuous wave mode produces rapid and bloodless thermal destruction of tissue, but this mode has not been shown to be an effective treatment for skin cancer, he said. In a study of 24 basal cell carcinomas (BCCs) treated this way, 10% recurred after 1 year and healing after the procedure produced hypopigmentation and atrophy (J. Dermatol. Surg. Oncol. 1979;5:803-6).

Some studies have tested the theory that treatment of superficial skin cancers with the CO2 laser in ultrapulsed mode could destroy the tumor and avoid scarring. In a series of 51 BCCs that were treated with the CO2 laser in ultrapulsed mode, dermatologic surgeons were able to treat 21 superficial BCCs reliably if the level of ablation penetrated to the midreticular dermis or deeper. Attempts to use this method with another laser and infiltrating BCCs were not successful (Br. J. Plast. Surg. 2000;53:286-93).

In another study, two or three passes of a Q-switched Nd:YAG laser on 13 squamous cell carcinomas (SCCs) in situ with 3-mm margins on normal skin left an unacceptable high rate of lesions positive for cancer when they were excised and examined in serial sections. For superficial BCCs, two passes left five of eight lesions positive and three passes left zero of nine lesions positive. Treatment of in situ SCC with two pass es yielded two of six lesions positive while three passes resulted in three of seven lesions being positive (Arch. Dermatol. 1998;134:1247-52).

Dr. Spencer said that he did not think CO2 lasers should realistically be a part of a dermatologist’s armamentarium against skin cancer. Instead, the CO2 laser may be considered to treat ac tinic cheilitis and basal cell nevus syndrome, where “your role is not cure, but control, and you’re trying to avoid too much mutilating surgery.”

Intravenous and Topical PDT

Intravenously administered photodynamic therapy (PDT) for ocular melanomas is currently being studied as an alternative to external beam radiation. In a phase II trial, 37 patients who had a total of 151 BCCs (most patients had basal cell nevus syndrome) were treated. Tumors recurred, however, in 36% of lesions on the nose and in 89% of morpheaform tumors (Arch. Dermatol. 1992;128:1597-601).

PDT researchers are studying shorter-acting light-sensitizing compounds that preferentially accumulate in malignant cells. Topical PDT agents such as fudexim sodium (Photofrin) is being studied for a variety of cancers, but its side effect of photosensitivity for 4-6 weeks through the skin and eyes creates a problem in using it for skin cancers. “If you’re dying of a stomach cancer, you will hide in a dark room for a month, but if you’ve got some basal cell skin cancers, I don’t think you will,” Dr. Spencer said of agents such as porfimer sodium (Photofrin). In a prospective study, PDT with intravenous Photofrin and red light yielded a complete response rate of 88% after an average follow-up of 29 months in 37 patients who had a total of 151 BCCs (most patients had basal cell nevus syndrome). Tumors recurred, however, in 36% of lesions on the nose and in 89% of morpheaform tumors (Arch. Dermatol. 1992;128:1597-601).

PDT researchers are studying shorter-acting light-sensitizing compounds that preferentially accumulate in malignant cells to avoid the problem of persistent photosensitivity with Photofrin. Verteporfin, an intravenously administered agent approved for ophthalmologic use that photosensitizes patients for only a few days, is undergoing clinical trials to test its efficacy in skin cancer, he said.

Topical PDT agents such as delta-amino levulenic acid (ALA), which avoid the photosensitizing problem altogether, have had reported recurrence rates of 44% in 95 superficial BCCs and 69% in 35 superficial SCCs after 19 months of follow up (Arch. Dermatol. 1994;130:197-201). “You should not be doing this in your practice,” Dr. Spencer said, who also has a private practice in St. Petersburg, Fla.

Eye lid tumors may represent the best opportunity to try topical ALA because it is usually desirable to avoid surgery in that area.
New Leg Vein Combines Laser and RF Energy

BY SHARON WORCESTER
Southeast Bureau

ATLANTA — A novel technology that combines diode laser and radiofrequency energy may be safe and effective for treating leg veins, Dr. Neil Sadick reported at the joint annual meeting of the American Society for Dermatologic Surgery and the American College of Mohs Micrographic Surgery and Cutaneous Oncology.

Sadick of Cornell University, New York, reported at the meeting that the Polaris LV system (Syneron Inc., Richmond Hill, Ont.) provided at least 90% vessel clearance in 76% of patients. The clearance persisted at 6 months of follow-up, said Dr. Sadick, who is a research consultant for Syneron.

A subsequent study showed that the Polaris LV system’s effects were comparable histopathologically with those of the 1064-nm wavelength laser.

Complications with the Polaris LV system were minimal. A slight increase in the amount of hyperpigmentation and bruising was noted, compared with the 1064-nm laser, but pain was considerably less with the 915-nm laser.

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