

Phototherapy May Shed Light on Chemoprevention

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LAS VEGAS — Photodynamic therapy continues to be used for many indications, including actinic keratoses, acne, and photorejuvenation, but other potential uses remain.

Perhaps most promising is the technology's role in chemoprevention, based largely on European studies, Dr. Michael Gold said at the annual meeting of the International Society for Dermatologic Surgery.

"Preliminary data are very promising," said Dr. Gold, a dermatologist who practices in Nashville, Tenn. "Anecdotal data in clinical practice are also encouraging, including longer time to development of new actinic keratoses and nonmelanoma skin cancers after treatment."

The two main photodynamic therapy photosensitizers currently being studied include Levulan (Dusa Pharmaceuticals Inc.) and Metvix (PhotoCure ASA).

Levulan is a 20% 5-aminolevulinic acid (ALA) solution. ALA occurs naturally in cells as an intermediate product formed during the endogenous porphyrin synthesis. It is converted to protoporphyrin IX and is activated by an appropriate light source.

In the United States, Levulan is approved for nonhyperkeratotic actinic keratoses of the face and scalp, with an incubation period of 14-18 hours and a treatment delivery time of 16 minutes and 40 seconds. All other uses are off label.

Metvix is a methyl ester of 20% 5-ALA. In the United States, it is approved for the treatment of actinic keratoses while in Europe and Australia it is widely used for the treatment of skin cancer.

"The FDA did not give this approval," Dr. Gold said. "In addition, there have been three reports in the literature of contact allergy to Metvix, so you have to keep that in mind."

Another photosensitizer available in Europe is PhotoSpray (Danish Dermatologic Development), a product that contains

a 0.5% liposome encapsulated 5-ALA. "Patients spray themselves with the product every 5-10 minutes for an hour before undergoing an IPL [intense pulsed light] type of treatment, and they've been getting some very nice results," Dr. Gold said.

In the United States, 5-ALA photosensitizers are being used to treat a variety of dermatologic concerns, including photorejuvenation and associated actinic keratoses, acne vulgaris, sebaceous gland hyperplasia, and hidradenitis suppurativa.

In Europe, the primary niche for their use remains in nonmelanoma skin cancer.

Light sources studied with these agents have included blue light, IPL, and pulsed dye lasers. Five split-face clinical trials published in 2005 and 2006 have confirmed the photorejuvenation results. The studies "showed better results with the IPL or pulsed dye lasers compared with the blue light technology," Dr. Gold said.

In the treatment of acne, studies have demonstrated that 5-ALA gets absorbed

into the sebaceous glands, causing a partial destruction of the glands.

Two split-face trials of acne patients showed better results when 5-ALA was combined with IPL compared with IPL alone (Dermatol. Surg. 2005;31:910-5; Dermatol. Surg. 2006;32:991-6).

Dr. Gold disclosed that he is a consultant, performed research, and speaks on behalf of many pharmaceutical and medical device companies, including DUSA Pharmaceuticals Inc. and Lumenis. ■

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A patient with severe acne is shown prior to treatment with a blue-light device.



The patient's acne is much improved after undergoing photodynamic therapy.

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