

Non-Surgical Approaches in Skin Cancer Management

Topical immunomodulators and PDT have received much attention lately, but other non-surgical trends are emerging. Here's a look at them.

Among dermatologists, attention in recent years has turned to the role of nonsurgical and minimally invasive modalities for skin cancer eradication and diagnosis. Interest in non-surgical modalities continues to surge, as they may variously provide needed treatment alternatives, decreased morbidity, enhanced cosmesis, and improved outcomes. Continued interest in non-surgical modalities is evidenced by recent reports and by presentations at this year's 67th Annual Meeting of the AAD, some of which are described below.

Cryoimmunology

In her presentation at the Annual Meeting, Deborah F. MacFarlane, MD, MPH, Associate Professor of Dermatology and Plastic Surgery at The University of Texas M. D. Anderson Cancer Center in Houston, described her nine-year experience using a combination of liquid nitrogen (LN) and imiquimod (Aldara, Graceway) to treat AKs, sBCCs and SCCs in situ. Described as cryoimmunology, treatment involved a two-step protocol. The first step of treatment was a light application of liquid nitrogen to target lesions. One week later, patients began to apply imiquimod to the treatment area according to the recommendations of the physician based on their particular presentation. Imiquimod therapy continued for six weeks. Patients were seen by the physician three weeks into

the imiquimod course.

Baseline biopsies were taken of all sBCCs and SCCs in situ and many AKs with follow up biopsies performed at the conclusion of treatment. Most patients have been followed up for five to six years, while eight or nine-year data are available for some.

According to Dr. MacFarlane, the combination of modalities increases clinician confidence that the lesion is treated. Furthermore, liquid nitrogen therapy "highlights" the treatment area for subsequent application of imiquimod. Dr. MacFarlane noted that active patient participation in treatment improved outcomes, while the three-week follow-up helped encourage therapeutic compliance. She recommends that to maximize compliance and efficacy, clinicians titrate imiquimod treatment to tolerability to ensure patient comfort.

According to Dr. MacFarlane, approximately 500 patients have been treated with combination therapy with only two failures. Both of these were in patients with worsening chronic lymphocytic leukemia (CLL), although six other CLL patients and a renal transplant patient have been successfully treated with the combination protocol. Furthermore, she says she has used the combination approach following Mohs surgery when subclinical AKs were noted histologically.

Dr. MacFarlane cautions against using combination therapy for recurrent lesions, SCC in situ with follicu-

lar involvement, or lesions in densely hair-bearing areas or those in the periorbital area.

Systemic Chemotherapy

An oral antineoplastic prodrug of 5-fluorouracil (5-FU), capecitabine (Xeloda, Roche) shows promise for the chemoprevention of skin cancers in organ transplant patients, according to Günther Hofbauer, MD, of the Department of Dermatology at University Hospital Zürich. He noted results of a study showing that the oral agent, which is FDA-approved for metastatic breast and colorectal cancer, produced a 78 percent reduction in SCCs among treated patients and reduced the number of new AKs. However, there was no discernible effect on BCC development.

He also noted continued interest in Difluoromethylornithine (DFMO), which has been studied as an oral agent as well as a topical intervention in rodent models of skin cancer. In mouse trials, oral administration of the ornithine decarboxylase (ODC) inhibitor prevented the formation of new UV-induced tumors and was credited with causing regression of already-formed tumors, Dr. Hofbauer noted.

Diagnostic Advancements

Epiluminescence microscopy has been a topic of interest for some time, and a new system appears closer to earning FDA market clearance. Results from a blinded study involving 1,831

Photodynamic Therapy Update

There's no consensus regarding the ideal light source for use during photodynamic therapy. Selection of a particular source may in many instances depend on availability and/or clinician preference. One study evaluated the efficacy of various light sources, finding that each could be used effectively but that there are differences in light doses from system to system. Sayre et al. (P3121) defined an equation for determining the "PhotoDynamic Therapy Index for PpIX" or PDT PpIX for any given light source. They further defined an equation for converting doses from one system to another. The dose for an alternate source is expressed as a function of the dose of the original source multiplied by the quotient of the PDT PpIX of the original source divided by the PDT PpIX of the alternate source.

pigmented lesions from 1,383 patients across the US show that the MelaFind (Electro-Optical Sciences or EOS) successfully differentiated benign from malignant lesions. Data presented at the AAD Annual Meeting and reported by EOS show general concordance between the recommendations of the system, which uses 10 different wavelengths of light to "view" up to 2.5 millimeters below the skin's surface, and expert dermatologists who relied on conventional viewing. The biopsy ratio (false positive to true positive) for MelaFind and the skin cancer experts in the pivotal study was 7.4 and 7.8, respectively. The computerized system uses an algorithm to evaluate characteristics of each "viewed" lesion to determine the likelihood of malignancy and the need for biopsy.

MelaFind detected 112 of 114 melanomas (98 percent sensitivity; lower confidence bound of 95 percent) that were eligible and evaluable for primary sensitivity endpoint analysis, and 125 of 127 melanomas (98 percent sensitivity; lower confidence bound greater than 95 percent) overall. MelaFind's specificity was superior (9.5 percent) to that of the study dermatologists (3.7 percent, p-value less than 0.02).

EOS says it plans to submit its Pre-Market Approval (PMA) application to the FDA in the near future. ■

Dr. Wolfe has no relevant disclosures.



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