

Integrative Medicine and Oncology: Emerging Evidence

Integrative medicine is the integration of evidence-based complementary and alternative therapies into mainstream health care with the goals of optimizing health promotion, preventing disease, improving patient outcomes, managing symptoms, and improving quality of life. Five domains of complementary and alternative therapies have been delineated by the National Center for Complementary and Alternative Medicine of the National Institutes of Health. These include biologically based therapies, manipulative and body-based therapies, energy therapies, mind-body practices, and alternative medical systems. Biologically based therapies use substances found in nature, including foods, herbal remedies, vitamins, and other dietary supplements. Manipulative and body-based methods include manipulations such as chiropractic adjustments, and soft tissue therapies such as massage therapy. Energy therapies such as Reiki or Therapeutic Touch seek to manipulate energy fields of the human body or involve the unconventional use of electromagnetic fields for health promotion. Mind-body practices include prayer, meditation, hypnosis, guided imagery, expressive therapies, yoga, tai chi, and other meditative movement therapies aiming to enhance bodily functions and reduce symptoms. Alternative medical systems are complete systems of theory and practice that usually predate conventional medicine and incorporate biologically-based, body-based, mind-body practices, and energy therapies. For example, the practice of traditional Chinese medicine incorporates the use of herbal medicines, massage therapy, meditative movement, and acupuncture to regulate the flow of energy. A given modality can be considered *complementary* when used with conventional medical care and *alternative* when used in place of recommended conventional medical care.

The emergence of the field of integrative medicine is largely due to public demand, especially from cancer patients and others living with chronic or life-threatening illnesses. Survey data indicate that many cancer patients seen in cancer centers opt to use some form of complementary therapy to assist them through medical treatment. Many cancer patients ingest dietary supplements that have an unknown potential to interact with medical treatment in hopes of strengthening immunity, prolonging life, and managing symptoms, often without their oncologist's awareness. A few patients delay or forgo well-studied

efficacious conventional medical treatment, opting for untested alternatives based on compelling anecdotes and marketing, sometimes by unscrupulous opportunists peddling expensive quackery.

Important landmarks in the field of integrative medicine include the establishment of the Office of Alternative Medicine at the National Institutes of Health in 1993, which became the National Center for Complementary and Alternative Medicine in 1998. Landmarks in the field of integrative oncology include the opening of the National Cancer Institute's Office of Cancer Complementary and Alternative Medicine in 1998, followed closely by the establishment of integrative medicine programs in several leading academic cancer centers at the beginning of the new millennium. Two peer-reviewed integrative oncology journals are now in publication: *Integrative Cancer Therapies* and the *Journal of Cancer Integrative Medicine*, which will soon become the *Journal of the Society for Integrative Medicine*. The Society for Integrative Oncology (SIO), a nonprofit, multidisciplinary organization, was recently founded as a collaborative effort by the integrative medicine program leaders at Memorial Sloan-Kettering Cancer Center, University of Texas M. D. Anderson Cancer Center, and Dana-Farber Cancer Institute. The mission of the SIO is to educate oncology professionals, patients, caregivers, and others about the scientific validity, clinical benefits, toxicities, and limitations of integrative therapies and also to provide a forum for peer-review of research efforts in this field of inquiry. SIO held its first conference in November 2004 in New York, NY, with over 600 healthcare providers representing 24 different countries participating. Research data were presented on nutrient-derived agents in cancer chemoprevention, treatment, and symptom management, as well as on acupuncture, massage, music therapy, and other complementary therapies for symptom management. The next meeting of this society will take place in November 2005 in San Diego, California.

This issue of *Cancer Control* includes four review papers on integrative medicine with a focus on integrative oncology. In the domain of biologically based therapies, Dr. Nagi Kumar and colleagues provide a literature review on the use of herbal supplements by cancer patients dur-

ing the perioperative period. The constituents, pharmacokinetics, and pharmacodynamics of several commonly used herbal supplements and the safety implications for presurgical screening are discussed. Addressing the domain of manipulative and body-based therapies, Dr. Lisa Corbin provides a timely review of the safety and efficacy of massage therapy for patients with cancer. She frames her review pragmatically to help provide mainstream healthcare providers with information on how to facilitate discussion with their patients about the safe use of massage during and after cancer treatment. Drawing from the domain of the mind-body therapies, Dr. Julianne Bower and colleagues review the literature on the topic of yoga practice by cancer patients, and they also provide a detailed review of studies carried out with patients during or after cancer treatment. Dr. Cynthia Myers and colleagues then summarize the literature on the use and effects of complementary therapies by pediatric oncology patients. Dr. Barrie Cassileth has also provided a concise report to bring us up to date on the impetus behind the formation of the Society for Integrative Oncology as a forum to disseminate data and elevate the discipline of integrative oncology. A final feature on the subject of complementary and alternative medicine provides a selection of 10 recently published papers in the field of integrative medicine, including papers that address the two domains of complementary therapy not reviewed in this issue of *Cancer Control* — energy therapies (the study of healing touch and massage therapy by Post-White et al¹) and alternative medical systems (see Alimi et al² on acupuncture).

This “10 best” feature points the reader to a rapidly expanding scientific literature on integrative oncology.

Completing the papers in this journal are three articles that are unrelated to integrative medicine. They highlight the practice-based research network as a model for end-of-life care research, report the effectiveness of quinolone prophylaxis in a marrow transplant unit to reduce resistant Gram-negative infections, and present a case report to highlight issues surrounding the diagnosis and management of colorectal cancer in pregnancy.

This is a time of great energy, discovery, and productivity in the emerging field of integrative oncology and in cancer research in general. Research efforts are underway to move us incrementally closer to understanding health and healing and toward our common goal of optimal care of patients with cancer.

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