Peripheral Neuropathy: Frustration & Hope

In 2005 the Institute of Medicine (IOM) released its report calling for increased attention to and care directed toward cancer survivors. The IOM noted that the life expectancy of people with a cancer diagnosis is steadily increasing and that sequelae of cancer treatment sometimes last well beyond the treatment itself. One of those sequelae is peripheral neuropathy—that annoying pins and needles sensation that may progress to pain, numbness, and loss of dexterity. Fifteen years ago “chemotherapy-induced peripheral neuropathy” (CIPN) usually could be blamed on vincristine or cisplatin. Now, there are several classes of drugs and biologicals—for a wide variety of neoplasms—implicated in CIPN. CIPN impacts quality of life, and may negatively affect outcome for an otherwise effective chemotherapy regimen. The chemotherapy dose may be reduced, delayed, or the offending drug dropped.

The overall incidence of CIPN is unknown, and characteristics vary with the drug, the length of treatment, and the individual patient. The majority of patients receiving vincristine develop some neurological deficits, but few of them have permanent or long-term pain or neuropathy. Approximately 30% of patients receiving taxanes develop grade 3-4 neurotoxicity. It resolves in most of them after several months. There is no way to predict which individuals will develop neurological symptoms, nor, once developed, whether they will become serious, resolve quickly, or persist for years. The range of symptoms includes paresthesias, dysesthesias, moderate to severe pain, allodynia and/or hyperalgesia (including sensitivity to heat, cold, or touch), loss of sensation, and loss of fine motor control and proprioception. Pain as a major symptom may affect up to 20% of patients. The percentage of patients in whom pain persists for years is unknown. The sensory disorders are usually localized in the hands and feet. It is generally agreed that the milder the symptom, the more likely it is to resolve fairly quickly. Typically, stopping or delaying chemotherapy arrests the development of neuropathy, but in some individuals it has reportedly gotten worse even when chemotherapy has been stopped.

The search is on for protective agents that will provide prophylaxis against CIPN. Among the approaches currently under study are modifying the chemotherapy schedule, or adding oral glutamine, amifostine, glutathione, and calcium-magnesium infusions. These are all currently available, but the evidence base for any of them remains weak. A recent randomized trial of oral glutamine added to a standard regimen of oxaliplatin/5-FU/leucovorin demonstrated significantly less sensory neuropathy compared to the control group, without affecting response to chemotherapy and survival. More such trials are needed.

There are no CIPN-specific treatments, and intervention for painful peripheral neuropathy remains empirical; there have been no controlled clinical trials to guide practice. Patients with CIPN require aggressive supportive care. It seems logical to follow the multi-modal approaches applied to other neuropathic pain syndromes, and should be systematically tailored to the individual patient. Suggested strategies range from exercise, massage, and cognitive-behavioral interventions to acupuncture and oral and topical medications. Early intervention by rehabilitation specialists can help to minimize functional deficits. Physical and occupational therapy may be indicated in some patients. Analgesic classes suggested include opioids, tricyclic antidepressants, and anticonvulsants. NSAIDs, steroids, selective serotonin reuptake inhibitors (SSRI’s), and local anesthetics have been helpful in anecdotal reports. A recent study in rats suggested that a naturally occurring amino acid, acetyl-L-carnitine, may hold promise.

Patients should be assessed and treated for situational depression. Self-care education should be similar to that for diabetics with peripheral neuropathy, emphasizing safety.

There is a growing scientific and clinical interest in CIPN. Supportive care and survivorship programs are beginning to focus on this syndrome. New laboratory techniques are beginning to elucidate the pathophysiology of CIPN, and investigational agents are entering clinical trials. In the meantime, CIPN should be taken seriously by clinicians and patients. Pain, especially, should be treated promptly and aggressively. Secondary prevention strategies should be employed, with frequent assessment and judicious use of available interventions for neuropathic pain.

YaleCares
News & Notes on Supportive Care, Symptom Management, and Care at the End of Life

Sponsored by the Connecticut Challenge Survivorship Program and the Yale Cancer Center Supportive Oncology Program
Thomas E. Quinn, APRN, MSN & Ken Miller, MD, Editors

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“The primary goal of palliative care is to prevent and relieve the many and various burdens imposed by diseases and their treatments.”

CIPN Bibliography — Yale access
CIPN Bibliography — others
In the News
- ELNEC wins IAHPC award. The End-of-Life Nursing Education Consortium has received a Recognition Award from the International Association of Hospice and Palliative Care. This train-the-trainer curriculum, developed by the American Association of Colleges of Nursing and the City of Hope Medical Center, now has subspecialty curricula in oncology, pediatrics, critical care, and geriatrics. It has been attended by about 40 Connecticut nurses. Content is being taught in schools of nursing, hospitals, and long-term care facilities. Also see offerings below: Connecticut Coalition of End-of-Life Nurse Educators
- Hospice Blog, mentioned in last month’s issue, has a new URL.

Patient Resources
The Cancer Survival Toolbox provides a continuum of information and resources for people with cancer from diagnosis through treatment and survivorship: “Living beyond cancer.” Audio files may be listened to online or downloaded to portable devices. The audio portion and written transcripts are available in English and Spanish.

Journal Watch
- AW Burton, et al. Chronic pain in the cancer survivor: A new frontier. Pain Medicine. 2007;8(2):189-198. It has been common in the past to distinguish cancer pain from “benign” (as if there were such a thing) chronic pain. That paradigm, always suspect, is now becoming obsolete as a growing number of people survive cancer but with a significant burden of pain. Burton et al provide an excellent overview of the problem of pain in cancer survivors, pointing out both prevention and treatment strategies.

Conferences, Meetings, Education
If you would like to have your hospice or palliative care event listed here, please send an e-mail to the address at the bottom of this page.

Yale Cancer Center
- April 16, 12:30 – 1:30pm. Schwartz Rounds: "The Struggle to Provide Palliative Care When the Entire Team Doesn't Agree" - A multidisciplinary forum for caregivers at Yale. YNHH, CH 201.
- May 22 – 23 1st Annual Yale Cancer Survivorship Clinical Symposium
- Apr 25, 1:30 - 2:30 PM Audioconference: Quality Measures 101. Center to Advance Palliative Care (CAPC).
- The Connecticut Coalition of End-of-Life Nurse Educators has scheduled four offerings for 2007 based on the End-of-Life Nursing Education Consortium (ELNEC) curriculum. Open to all clinicians; CNE’s available. Contact: Pat Trotta, (203)379-4763; patricia.trotta@cancer.org.
- May 19, 8:30am – 12:30pm. Waterbury Hospital. Care at end of life.
- Sep 15, 8:30am – 12:30pm. Pain & Symptom Management. Hartford Hospital
- November – Date TBA. Cultural and Ethical Issues in Palliative Care. UConn Medical Center, Farmington.

Other upcoming events in Connecticut
- May 17. Wallingford. Ethical Dilemmas at End of Life. CT Council for Hospice & Palliative Care. Contact: Monica Smith, (203) 265-9931, Smith@chime.org

Upcoming events elsewhere
- Apr 25. Presque Isle, ME Pain Management at the End of Life. Maine Pain Initiative
- Jun 21 – 24. New York City. 7th International Conference on Pain & Chemical Dependency

Online continuing education from QuestMedED . . .
- Late Effects of Cancer Treatment and Survivorship: Strategies for Primary Care and Oncology Care Providers [CME]
- The Clinical Management of Breakthrough Pain - Current and Emerging Perspectives [CME]
- Management of Neuropathic Pain 2006: Antidepressants and Anticonvulsants [CME; CPE]
- and from CEMedicus (enter search term: palliative).
- The Relief of Pain ... The Pain of Relief: Managing Opioids in the Palliative Care Environment [CME; CNE]
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