Chemotherapy-Induced Peripheral Neuropathy: Assessment of Oncology Nurses’ Knowledge and Practice

Madelaine Binner, DNP, MBA, CRNP-BC, Diana Ross, MSN, RN, and Ilene Browner, MD

Oncology nurses involved in the administration of chemotherapy are in an ideal position to assess chemotherapy-induced peripheral neuropathy (CIPN). CIPN is defined as damage to peripheral, motor, sensory, and autonomic neurons as a result of exposure to toxic chemotherapy agents that inactivate the mechanisms necessary to maintain the metabolic needs of the axon (Postma & Heimans, 2000). Clinical manifestations of CIPN may include burning, tingling, numbness, and electrical shock sensations; impaired muscle tone, coordination, and position sense; altered sense of touch, pain, and temperature; constipation; postural hypotension; and diminished deep tendon reflexes, among others. Neuropathic pain may be a consequence of CIPN but is seldom assessed as a unique component of the chemotherapy experience. Detecting early symptoms of CIPN may prevent patient injury, minimize progression of symptoms and complication rates through earlier interventions, and alleviate patient anxiety related to symptoms and sensations associated with CIPN. Patients may not spontaneously report CIPN symptoms and related pain without being prompted; therefore, oncology clinicians should incorporate assessment of neuropathy and neuropathic pain into routine practice (Smith, Beck, & Cohen, 2008). The impact of CIPN on a patient’s activities of daily living and quality of life should also be considered in the evaluation. For ease of discussion, neuropathic pain and CIPN are used interchangeably in this article.

Research specific to nurses’ knowledge and assessment of CIPN and neuropathic pain is limited. Neuropathy and neuropathic pain often are included under the more generalized topic of pain. Nurses’ practice behaviors and knowledge pertaining to neuropathic pain should be isolated and studied because the etiology of neuropathic (nerve) pain differs from that of nociceptive (tissue) pain; therefore, nursing assessment and management of CIPN also require a different approach.

Physicians, pharmacists, and other healthcare team members rely on nurses’ ability to accurately assess pain to improve pain management (Xue, Schulman-Green, Czapinski, Harris, & McCorkle, 2007). Identifying whether knowledge and practice deficits exist in this assessment process can assist in the development of educational interventions to address those learning needs and help establish practice guidelines that ultimately impact clinical oncology nursing practice. Improving nurses’ knowledge and assessment skills related to neuropathic pain can significantly contribute to the well-being of their patients (Herr, 2004).