■ Article

Instruments for Assessing Chemotherapy-Induced Peripheral Neuropathy: A Review of the Literature

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Background: Chemotherapy-induced peripheral neuropathy (CIPN) is a common and often dose-limiting side effect of chemotherapy that can result in disability and poorer quality of life. However, no standardized measurement for CIPN exists. Clinicians often base decisions for dose modification or discontinuation of a chemotherapeutic agent on patient report of subjective symptoms and physical examination.

Objectives: This review is designed to identify valid and reliable assessment tools that measure or assess CIPN in adult patients receiving chemotherapy.

Methods: A systematic literature review was conducted using PubMed, CINAHL®, and Cochrane Library. Articles were included if their primary purpose was to evaluate the psychometric properties of scales to measure CIPN in adult patients with cancer receiving neurotoxic chemotherapeutic agents.

Findings: The search yielded 143 results, with 16 articles meeting criteria for inclusion in the review. Seven unique scales and their reduced and modified versions were examined. The majority of the questionnaires were evaluated in a single tumor type, primarily with taxanes and platinum compounds. No consensus exists on the most appropriate patient self-report scale for use in the general oncology population.

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Chemotherapy-induced peripheral neuropathy (CIPN) is a major dose-limiting side effect of many commonly used chemotherapeutic agents (Hershman et al., 2014; Pachman, Barton, Watson, & Loprinzi, 2011). The reported incidence of CIPN ranges from 0%–70% in patients receiving chemotherapy (Pachman et al., 2011). Common symptoms of CIPN are sensory neuropathies, including paresthesia and pain. These symptoms may resolve completely but, in many instances, are only partially reversible, leading to decreased functional status and disability (Pachman et al., 2011). Multiple pharmacologic agents have been studied for the treatment of CIPN. A randomized clinical trial by Lavoie Smith et al. (2013b), demonstrated a decrease in the mean neuropathic pain score during five weeks when comparing duloxetine (Cymbalta®) 60 mg daily with placebo in patients who had received platinum and taxane agents. However, effective treatment for CIPN remains a challenge underscoring the need for assessment of CIPN accurately and in a timely manner to reduce these side effects.

Although patient self-report scales and questionnaires have been developed to measure CIPN, they are not routinely used in clinical practice. Clinicians often use a combination of patient symptom report and physical examination to assess CIPN. A standardized assessment tool could provide clinicians with a way to identify changes in neuropathy from baseline and, if changes are noted, chemotherapy regimens can be modified with dose reductions, treatment breaks, and/or discontinuation of neurotoxic drugs before symptoms of CIPN become debilitating and potentially irreversible. This review article examines the literature on assessment of CIPN to identify tools that accurately measure or assess CIPN.