Multivitamins May Reduce Incidence of Neuropathy from Chemotherapy, Shows New Study

*Roswell Park team finds a potential preventive for debilitating and, often, long-lasting side effect of chemotherapy*

BUFFALO, N.Y. (PRWEB) September 07, 2017 -- Chemotherapy-induced peripheral neuropathy, or CIPN, is a common side effect of cancer treatment that causes shooting or burning pain, numbness, tingling and cold sensitivity of the hands and feet for many cancer patients. A new study from Roswell Park Cancer Institute found that women who took multivitamin supplements before their breast cancer diagnosis and/or during treatment, however, were less likely to develop these debilitating and often long-lasting symptoms. The study was published online ahead of print in the Journal of the National Cancer Institute (JNCI).

An estimated 30% to 40% of cancer patients who receive chemotherapy experience CIPN, enduring pain that diminishes sleep and quality of life and can make everyday activities such as walking or buttoning a shirt difficult. CIPN commonly leads to dose reduction or discontinuation of chemotherapy. Symptoms can persist after treatment ends and become permanent. Some chemotherapy drugs, such as taxanes and platinum-based compounds, are more likely than others to cause it. Currently, no known preventive intervention for the side effect exists.

“Our study showed that use of multivitamin supplements, but not specific vitamins, was associated with less neurotoxicity,” says Roswell Park researcher and the study’s senior author, Christine Ambrosone, PhD, Senior Vice President for Population Sciences and Roswell Park Alliance Foundation Endowed Chair in Cancer Prevention. “This was true for use before diagnosis and, to a lesser extent, during chemotherapy.”

“Symptoms of CIPN often persist after completion of chemotherapy, and effective treatment options are limited,” notes the paper’s first author, Gary Zirpoli, PhD, a graduate of Roswell Park’s doctoral program in cancer prevention who is now a research fellow with the Department of Neurology at Massachusetts General Hospital and Harvard Medical School. “Identifying preventive measures is therefore a critical part of enhancing quality of life for breast cancer survivors.”

Some studies have evaluated the use of dietary supplements in relation to breast cancer prognosis, but the majority of previous data were derived from studies looking at use of vitamins in relation to risk, or asked about use retrospectively among patients who were at different points in their survivorship continuum, explains Dr. Ambrosone. This study, including more than 1,000 patients, was embedded in a clinical trial in a cohort of women with breast cancer who received the taxane drug paclitaxel, an agent that commonly results in CIPN. Previous use of dietary supplements was asked at registration to the trial, and use during chemotherapy was recorded when patients had completed treatment. A proportion of patients in this trial experienced grade 3 and 4 CIPN, characterized by impairing or disabling sensory loss that interferes with activities of daily living or function. Patients who used multivitamins before diagnosis were nearly 40% less likely to experience grade 3 or 4 neuropathy than non-users. Similar, but somewhat weaker associations were observed for use during chemotherapy. Individual supplements such as vitamin C, folic acid, calcium, iron and fish oil, did not appear to have an association with risk for CIPN.

Dr. Ambrosone cautions that the use of multivitamins could reflect other “healthy lifestyle” patient behaviors that may reduce risk of CIPN, rather than the protective effect directly due to the supplements themselves.
“Importantly, we do not yet have information on how supplements may affect breast cancer recurrence and survival, and there are some concerns that supplements, particularly antioxidants, could interfere with the efficacy of cancer treatment,” she says. “Because of this, changes to clinical practice are not warranted, and recommendations for patients cannot be made at this time.”

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The study, “Supplement Use and Chemotherapy-Induced Peripheral Neuropathy in a Cooperative Group Trial (S0221): The DELCaP Study,” is available at academic.oup.com.

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This press release is also available on the Roswell Park website: https://www.roswellpark.org/media/news/multivitamins-may-reduce-incidence-neuropathy-chemotherapy

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