



## The pain of surviving cancer: Coping with the lasting effects of chemotherapy treatment

Bette Weinstein Kaplan

**P**ain. It is one of the most challenging aspects of achieving quality palliative care for the patient coping with cancer. A patient may experience psychic pain caused by having cancer and physical pain caused by the disease process. A patient may have residual pain from a preexisting condition, or the ongoing pain of a concomitant disease or infection. Or, the patient's pain can be caused by cancer treatments.

Neuropathic pain is one of the worst types of pain for the patient to experience and the oncology clinician to treat.<sup>1</sup> Radiation therapy, infections such as herpes zoster in immunocompromised patients, or nerve impingement from a tumor can all cause neuropathic pain, as can chemotherapy. The latter affects sensory, motor, and autonomic pathways and is usually referred to as *chemotherapy-induced peripheral neuropathy* (CIPN). CIPN is a debilitating condition affecting patients with cancer or who are recovering from cancer.<sup>2</sup> No medication specifically targets this type of unremitting pain.

### CAUSATIVE CHEMOTHERAPY AGENTS

A number of chemotherapy agents are culprits of peripheral neuropathy in patients with cancer. Oncology nurses are well aware of the neurotoxicity of drugs such as bortezomib

(Velcade), cisplatin (Platinol, generics), oxaliplatin (Eloxatin, generics), paclitaxel (Abraxane, Onxol, generics), thalidomide (Thalomid, generics), and vincristine (Oncovin, Vincasar, generics).<sup>3</sup> Oxaliplatin produces an unusual cold-induced peripheral neuropathy. Sensitive patients must avoid the refrigerator or freezer, as well as ice cream and other cold foods. These patients must always wear a hat, gloves, and a scarf when the weather is cold.

Neuropathic pain, especially CIPN, often worsens over time; the longer the patient is exposed to chemotherapeutic treatments the worse the pain gets—even as the medications effectively treat the cancer. Amy P. Abernethy, MD, director of the Duke Cancer Care Research Program at the Duke University Medical Center in Durham, North Carolina, explained it this way (oral communication, April 2011):

“Several things happen in the treatment of cancer related neuropathic pain. The medicines we have don't work well, so we end up using accumulating medications with accumulating side effects.

“It takes a long time to get there. So for people who have a limited life expectancy, we don't have medicines that work overnight. We're sequentially adding things, different medications. Figuring out what's going to work on someone's pain takes a while. And that's

a substantial portion of a person's life when you don't have much life left.

“When you're ill and facing advanced illness, the proportion of your day that you spend suffering is a substantially higher proportion of your time left.”

Furthermore, the neuropathy of cancer is a persistent problem. One study found that cancer survivors can experience pain for more than a decade after completing treatment.<sup>4</sup>

### MEDITATION, MEDICATION, AND EXERCISE

Some patients find relief with meditation, and some improve with applications of moist heat, whereas while others prefer ice (depending on which drug contributed to the pain). Physical therapy, massage, and acupuncture may also be effective for certain patients with chemotherapy-related neuropathy. However, most palliative care specialists conclude that symptomatic treatment is the best approach for CIPN at this time. They suggest starting with a broad-spectrum analgesic, such as an NSAID. Tricyclic antidepressants such as amitriptyline (Elavil, Endep, Vanatrip) and nortriptyline (Aventyl, Pamelor, generics), selective serotonin reuptake inhibitors (SSRIs) such as duloxetine (Cymbalta) and venlafaxine (Effexor, generics), and even gabapentin (Gabarone, Neurontin, generics) or pregabalin (Lyrica) are often

ineffective for patients with CIPN. Anticonvulsants do not seem to relieve neuropathy related to chemotherapy, although they are often effective for other types of neuropathic pain. If the pain is unresponsive to any of these treatments, many patients will find relief with an opioid.<sup>5</sup>

Judith Paice, PhD, RN, director of the Cancer Pain Program in the Division of Hematology-Oncology at Northwestern University's Feinberg School of Medicine in Chicago, Illinois, recommends a multifaceted approach to managing CIPN, including physical activity.

"These patients need to exercise, to keep moving to ensure that they don't lose muscle strength," she advises. However, their symptoms require special safety precautions, because "they can lose proprioception—the spatial orientation of their bodies—so they are at risk for falls and other injuries. They should make sure their walking surfaces are nonskid, eliminate throw rugs, and use a night light. If their hands are affected, they should turn down the temperature of their hot

water so they don't burn themselves because, paradoxically, their sensation of what is normal is reduced. They need frequent assessments of their feet and good foot care."<sup>6</sup>

### IS A PROMISING MEDICATION ON THE HORIZON?

A terrible irony is that someone can survive the onslaught of cancer, only to spend the next decade or more coping with neuropathic pain caused by the very treatment that ensures the person's survival. As more patients with cancer are survivors, more of them suffer with CIPN. Given the scope of the problem, a search for medications that specifically treat this type of pain makes sense. One drug being considered, KRN5500, is derived from the antibiotic spicamycin.<sup>7</sup> It was discovered by researchers looking for new treatments for myeloid leukemia. Although the derivative was not effective for myeloid leukemia, it did prove surprisingly successful at relieving neuropathic pain, and joint trials with the National Cancer Institute (NCI) are underway. This

may be the very welcome beginning of a new armamentarium for CIPN. ■

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**Bette Kaplan** is a medical writer based in Tenafly, New Jersey.

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### REFERENCES

1. Farquhar-Smith P. Chemotherapy-induced neuropathic pain. *Curr Opin Support Palliat Care*. 2011;5(1):1-7.
2. Velasco R, Bruna J. Chemotherapy-induced peripheral neuropathy: an unresolved issue [in Spanish]. *Neurologia*. 2010;25(2):116-131.
3. Burton AW, Fanciullo GJ, Beasley RD, Fisch MJ. Chronic pain in the cancer survivor: a new frontier. *Pain Med*. 2007;8(2):189-198.
4. Harrington CB, Hansen JA, Moskowitz M, et al. It's not over when it's over: long-term symptoms in cancer survivors—a systematic review. *Int J Psychiatry Med*. 2010;40(2):163-181.
5. Kaley TJ, Deangelis LM. Therapy of chemotherapy-induced peripheral neuropathy. *Br J Haematol*. 2009;145(1):3-14.
6. Paice JA. Chronic treatment-related pain in cancer survivors. *Pain*. 2011;152(suppl 3):S84-S89.
7. Borsook D, Edwards AD. Antineuropathic effects of the antibiotic derivative spicamycin KRN5500. *Pain Med*. 2004;5(1):104-108.