Managing cancer-related fatigue and drug-induced neuropathy

What is the role of medications in managing fatigue in cancer patients?

Cancer-related fatigue is defined as the persistent sense of physical, emotional, or cognitive exhaustion related to cancer or cancer treatment; it affects more than 70% of patients with cancer. Patients complaining of fatigue should be screened for noncancer causes such as anemia, insomnia, or depression. The patient's medication list should be reviewed as well; nonchemotherapy medications such as narcotic analgesics or beta-blockers may also contribute to feelings of fatigue.

Nonpharmacologic interventions, including exercise, nutrition, and lifestyle changes, are the first line of treatment. In patients with no other cause for their fatigue and in whom nonpharmacologic strategies are ineffective, stimulant medications may be helpful. While not indicated by the FDA for this use, methylphenidate (Metadate, Methylin, Ritalin, generics) and modafinil (Provigil) have the most data on their efficacy for treatment of cancer-related fatigue. Typical doses are methylphenidate 2.5 to 5 mg twice daily or modafinil 50 to 200 mg once daily. To prevent insomnia, methylphenidate should be taken in the morning and early afternoon, and modafinil should be taken in the morning. Adverse effects of psychostimulants include hypertension, insomnia, palpitations, arrhythmias, psychosis, tremor, and headache. These medications should not be given to patients with uncontrolled hypertension, coronary artery disease, and certain arrhythmias.

Patients in the end-of-life setting may benefit from use of a corticosteroid, although this is not well-studied. Corticosteroids should only be used for fatigue in end-of-life settings in patients who do not tolerate stimulants.

Are there any effective ways to treat or prevent neuropathy with oxaliplatin?

Oxaliplatin (Eloxatin, generics) is a platinum chemotherapy agent associated with both acute and chronic neurotoxicity. The acute neurotoxicity begins during or within hours of the infusion and manifests as paresthesias, dysthesias, muscle spasms or cramping (occasional), and laryngeal spasms (rare). This toxicity is unique in that it is often induced or aggravated by cold. Therefore, patients should be advised to dress warmly and to avoid consuming cold foods or beverages during and for 7 to 10 days after the infusion.

Chronic neurotoxicity is the dose-limiting adverse effect of oxaliplatin and is related to cumulative oxaliplatin dose. Chronic neurotoxicity manifests as non-cold-related dysesthesias and paresthesias of the extremities that persist between cycles. Patients with more severe damage also experience impaired sensation or difficulty with fine motor movements. Tricyclic antidepressants, gabapentin (Neurontin, generics), pregabalin (Lyrica), and carbamazepine have been used to manage oxaliplatin-induced neurotoxicity; however, these agents have not been proven to be effective in randomized clinical trials. Fortunately, the symptoms of chronic neurotoxicity usually improve within 6 to 12 months of discontinuing oxaliplatin. Patients with persistent symptoms associated with pain or functional impairment should be referred to their oncologists for consideration of holding or reducing the oxaliplatin dose.

Because there is no good treatment for oxaliplatin-induced neuropathy, a great emphasis is put on preventing the drug's neurotoxicity. Much of the acute neurotoxicity associated with oxaliplatin is related to alterations in ion channel conduction; therefore, infusions of calcium and magnesium have been used as a preventive measure. The most frequent regimen is calcium gluconate 1 g and magnesium sulfate 1 g given both pre- and postinfusion. One study reported that the efficacy of oxaliplatin is reduced in patients who receive calcium and magnesium with oxaliplatin, although larger, subsequent trials have shown that calcium and magnesium administration improves tolerability of the drug and does not appear to worsen patient outcomes. ■

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