



P A T I E N T G U I D E

CLINICAL PRACTICE GUIDELINES

May 2006

White Blood Cell Growth Factors

SPECIAL ANNOUNCEMENT
on Leukine (sargramostim)
(Updated January 25, 2008):
Patients and doctors need to be aware that there has been a voluntary market suspension of the current liquid formulation of this drug because of an upward trend in spontaneous reports of adverse reactions, including syncope (fainting). The lyophilized (freeze-dried) form of the drug is not affected. See the U.S. Food and Drug Administration (FDA) website for more information.

To help doctors give their patients the best possible care, ASCO asks its medical experts to develop recommendations for specific areas of cancer care. ASCO recently updated a clinical practice guideline about the use of white blood cell growth factors. This patient

guide is based on ASCO's recommendations.

As you read this guide, please keep in mind that every person treated for cancer is different. These recommendations are not meant to replace your or your doctors' judgment. The final decisions you and your doctors make will be based on your individual circumstances.

Background

White blood cell growth factors, also known as hematopoietic (blood-forming) colony-stimulating factors (CSFs), are proteins that help the body produce white blood cells. White blood cells help fight infection and can be destroyed during some types of cancer treatment. Having low numbers of white blood cells is called neutropenia, and patients with neutropenia

are more likely to develop infections. Neutropenia may occur with or without a fever. Febrile neutropenia (neutropenia with a fever) may be a sign that the patient has developed an infection and requires antibiotics and hospitalization. Because of the risk of complications from febrile neutropenia, the panel of experts that developed this guideline agreed that febrile neutropenia should be avoided, if possible.

CSFs are supportive medications, which means that they are not intended to treat the cancer, but rather to prevent patients from developing side effects of cancer treatment, such as infections. CSFs are given as shots, usually 24 hours after a chemotherapy treatment, and include filgrastim (Neupogen), sargramostim (Leukine), and pegfilgrastim

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(Neulasta). These medications are made in the laboratory and are similar to those naturally produced by the body.

Recommendations

Like other medications, CSFs have both risks and benefits. Treatment with CSFs can lower the risk that a patient will be hospitalized because of febrile neutropenia, but CSFs also cause aches in the bones, low-grade fever, malaise (feeling unwell), and involve multiple shots to deliver the medication. Your doctor can help determine your need for a CSF based on your risk of developing febrile neutropenia. This risk depends on the cancer diagnosis, cancer treatment you receive (such as dose and schedule of chemotherapy), and your medical history, age, and overall health.

The general recommendations for the use of CSFs include the following:

- The first option should be to find an effective chemotherapy regimen that doesn't require the use of CSFs, if possible.
- Patients should receive CSFs when the risk of developing febrile neutropenia is about 20% or greater, based on the patient's cancer type, treatment plan, age, medical history, and other factors. Some of these situations include:
 - Patients receiving dose dense chemotherapy (treatment given more often, such as

every two weeks instead of every three weeks)

- Patients older than 65 with lymphoma who are being treated with curative chemotherapy
- Patients with health conditions that place them at higher risk of developing complications from neutropenia

There are circumstances where treatment with a CSF is not recommended. Please talk with your doctor for more information. Some of these situations include:

- Patients receiving chemotherapy and radiation therapy at the same time
- Patients with neutropenia and no fever
- Patients receiving chemotherapy with a risk of

febrile neutropenia that is less than 20%, which includes most chemotherapy regimens.

What This Means for Patients

CSFs are supportive medications that can help prevent hospitalization from infection after some types of cancer treatment. These medications are not necessary for everyone undergoing cancer treatment, just those patients who are at a higher risk of developing febrile neutropenia. Most chemotherapy programs are not associated with a high risk of developing febrile neutropenia. Your doctor can help you understand CSF treatment and how to manage the accompanying side effects.

Questions to Ask the Doctor

Patients are encouraged to ask their doctors the following questions about CSFs:

- Do you recommend adding a CSF to my treatment plan? Why or why not?
- Is there an effective chemotherapy regimen for my type of cancer that might not require the use of CSFs?
- Is my risk of developing febrile neutropenia with this treatment more than 20%?
- What are the risks and benefits of CSF treatment?
- Where can I learn more about CSFs and my cancer treatment?

Patients receiving CSFs may want to ask the following questions:

- What can be done to treat bony aches and joint pain?
- How long does this pain last?
- How can I tell if the bone pain is from CSF treatment and not from the spread of cancer?
- What do I do if I have bone pain with a fever?

Helpful links

Read the entire clinical practice guideline published in the July 1, 2006 issue of the *Journal of Clinical Oncology* (JCO).

Download a slide presentation about the guidelines created for oncologists and other health-care professionals.

PLWC: Managing Side Effects: Neutropenia

PLWC: Managing Side Effects: Infection

Resources

People Living With Cancer (www.plwc.org) is the comprehensive, oncologist-approved cancer information website from ASCO. Visit PLWC to find guides on more than 90 types of cancer, clinical trials information, coping resources, information on managing side effects, a live online chat series, medical illustrations, cancer information in Spanish, the latest cancer news, and much more. For more information about ASCO's patient information resources, call toll free 888-651-3038.

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About ASCO

The American Society of Clinical Oncology (ASCO) is the world's leading professional organization representing physicians of all oncology subspecialties who care for people with cancer. ASCO's nearly 25,000 members from the United States and abroad set the standard for patient care and lead the efforts to discover more effective cancer treatments, increase funding for clinical and translational research, and, ultimately, improve cancer care for the estimated 10 million people diagnosed with cancer worldwide each year. ASCO publishes the *Journal of Clinical Oncology* (JCO), the preeminent, peer-reviewed, medical journal on clinical cancer research,

and produces People Living With Cancer (www.plwc.org), a comprehensive consumer website providing oncologist-vetted cancer information to help patients and families make informed health-care decisions.



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