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Topic #5: White Blood Cell Growth Factors for Preventing Infection

Background

White blood cell growth factors, also called hematopoietic (blood-forming) colony-stimulating factors (CSFs), are proteins that help the body make white blood cells. White blood cells help fight infection. Many cancer treatments, such as chemotherapy, damage white blood cells. This can cause neutropenia, a very low level of white blood cells that increases the risk of getting an infection. When neutropenia occurs with a fever, it is called febrile neutropenia and may be a sign of an infection. Infections can be very serious for people with cancer because they often do not have enough white blood cells to fight the infection on their own and will usually need to be treated in the hospital with antibiotics. CSFs increase levels of white blood cells to help a person avoid infection. However, most patients receiving chemotherapy will not need CSFs. This is because most chemotherapy is only associated with less severe neutropenia, and the risk of severe neutropenia can usually be predicted ahead of time.

Recommendation

ASCO recommends that CSFs are used in the following situations:

- When the risk of febrile neutropenia from chemotherapy is more than 20% and another treatment that works as well is not available.
- For patients receiving chemotherapy with less than a 20% risk of febrile neutropenia if their individual risk is increased because of age, medical history, or other reasons related to the cancer.

What this means for patients

It's important to remember that most patients will not need CSFs because most types of chemotherapy do not increase the risk of febrile neutropenia. Like other medications, CSFs have both risks and benefits. While they reduce infections, they involve multiple shots and have side effects of their own. Your risk of developing febrile neutropenia depends on the type of cancer you have, the type and dose of chemotherapy, the length of treatment, and your medical history, age, and overall health. Talk with your doctor about your individual risk of febrile neutropenia and how to prevent or manage infections.

Questions to ask your doctor

- What side effects are possible with my treatment plan?
- What is my risk of developing low levels of white blood cells? What is my risk of infection?
- What are my options for preventing and managing infections?
- Do you recommend medications to increase white blood cell production? Why or why not?
- What are the signs and symptoms of an infection? What should I report to you right away?
- If I develop febrile neutropenia, what are the possible treatment options?
- What are the risks, benefits, and cost of each option?

For More Information

Consumer Reports:Drugs to Boost White Blood Cells for Cancer Patients on Chemotherapy [1] (Topic 5; PDF)

Neutropenia [2]

Infection [3]

What to Know: ASCO's Guideline on White Blood Cell Growth Factors [4]

Links:
[1] http://consumerhealthchoices.org/wp-content/uploads/2013/02/ChoosingWiselyCSFsChemotherapyASCO-ER.pdf
[2] http://www.cancer.net/node/25053
[3] http://www.cancer.net/node/25256
[4] http://www.cancer.net/node/25744