Improving white blood cell count during chemotherapy

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Dear OncoLink “Ask The Experts,”
My wife has had surgery for Colon cancer and a liver resection. Now the cancer has spread to her lungs. She has begun chemotherapy treatment with 5-FU and irinotecan. Blood tests showed very low white blood cell counts and the treatment was stopped. Is there any thing she can take or do to improve her white cell count?

Carolyn Vachani RN, MSN, responds:
A low white blood cell (WBC) count, is one of the more serious side effects of chemotherapy. It can make it necessary to delay treatment to allow the WBC count to recover, and/or cause the care team to reduce the chemotherapy dose to prevent it from happening again. WBCs are necessary for the body to fight infection, making the risk of infection higher when the WBC count is low. The most important WBC in fighting infections is the neutrophil. If the neutrophil count is low, it is called neutropenia (new-tro-pee-nia). Having neutropenia puts a patient at a particularly high risk of developing an infection.

Patients with low WBC counts or neutropenia should avoid people with colds or crowded areas and wash their hands frequently. They should follow some precautions to reduce the risk of infection. They should also practice some food safety practices to prevent a food-bourne illness.

There are several medications, called colony-stimulating factors, which can prevent the white blood cell count from dropping or help it recover faster. These medications (filgrastim, Pegfilgrastim, sargramostim) are given by an injection. They are most effective when started the day after chemotherapy to prevent the white blood cell count from dropping too low.

There is no particular food known to help boost WBC count. Our bodies need protein to produce WBCs, so it is important to get enough protein in your diet. If you are not eating well, ask to speak with an oncology dietician at the treatment center. They can recommend high-protein foods to boost your intake. They may recommend a multi-vitamin that contains B12 and folate, as these vitamins are needed to produce WBCs.

Some patients turn to herbal supplements to boost immunity, though there is no evidence to support their use. The commonly used herbs include Astragalus and Echinacea. Astragalus has shown some ability to increase immunity in animals, but has not been tested in humans. Side effects have been reported to include diarrhea, low blood pressure, and dehydration.

Echinacea has not been studied in people with cancer and there is no evidence to show it can alleviate the immune suppression caused by cancer therapy. Echinacea has been known to cause liver problems and can increase the toxicity of some chemotherapies.

As always, you should discuss the use of any medication, vitamin, or herbal supplement with your oncology provider before taking it. The addition of any supplements or medications can interfere with other treatments, including chemotherapy and radiation therapy, and can alter laboratory results including blood-clotting ability.

Neutropenia, white cell count, Neupogen, boost white cell count, blood counts

No