

Immunotherapy for Cancer: Nonspecific



Immunotherapy is a way of treating a disease or infection using the body's immune system. It can be used to treat some kinds of cancer.

One type of immunotherapy treatment for cancer is called nonspecific immunotherapy (NSI). The information below tells you more about NSI treatments and how they are used.

How immunotherapy works

The immune system is the body's defense against disease and infection. One part of the system makes special proteins called antibodies. These proteins attack foreign substances that get into the body. Each antibody matches a certain substance. It recognizes and attacks only that substance. Some immunotherapy treatments help treat cancer by targeting certain parts of cancer cells. But NSI treatments work differently.

NSI treatments help to increase the immune system's overall ability to fight cancer cells. NSI treatments use man-made immune system proteins called cytokines. These proteins help immune system cells communicate. They also help control the immune system's response to cancer cells.

Types of NSI treatments

NSI treatments include:

- **Interferons.** These activate certain immune system cells so they attack cancer cells. They can kill cancer cells and slow their growth.
- **Interleukins.** These increase the growth of certain immune system cells that help fight cancer.
- **Colony-stimulating factors.** These encourage the growth of blood cells in the bone marrow. This helps increase the number of white blood cells in the body. White blood cells help the body fight against cancer cells. These medicines also help reduce the risk of infection.

Only a few types of cancer seem to respond to NSI treatment. Some of these include certain types of leukemia, some kinds of lymphoma, kidney cancer, and melanoma skin cancer. Researchers are looking for ways that NSI treatment can be used for other cancers.

How NSI treatments are given

NSI treatments can be given different ways. Some are given as a shot (injection) just under the skin or into a muscle. Others are given by IV (intravenously) into the blood through a vein. Treatment may be given at a hospital, infusion center, or healthcare provider's office. The number of treatments and how long treatment takes depends on many factors. This includes the type of NSI, how it's given, and the type of cancer being treated.

Possible side effects of NSI treatments

NSI treatments may cause side effects. Some common side effects include:

- Severe tiredness (fatigue)
- Muscle, bone, and joint aches
- Low blood pressure
- Weakness

- Fever
- Chills
- Allergic reaction, such as rash and hives
- Upset stomach (nausea) or vomiting
- Diarrhea
- Changes to blood counts
- Confusion
- Loss of appetite
- Headache
- Weight gain

Other serious side effects can also happen. Your healthcare provider can tell you more about what side effects to watch for and how to manage them. If needed, your provider may give you medicines to treat some side effects. Tell your healthcare team about any side effects you have. They can teach you ways to help cope with side effects. And many of them can be treated.

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