Multiple Myeloma: Immunotherapy

What is immunotherapy?

Immunotherapy is a type of cancer treatment that works with your body's immune system. These medicines can work in a number of different ways. They can turn on certain immune cells so that they kill cancer cells. Some can mess up the signals cancer cells need to grow. And they can kill cancer cells, too.

What immunotherapy medicines are used to treat multiple myeloma?

Two main types of immunotherapy can be used to treat multiple myeloma:

Immunomodulatory medicines (IMiDs)

Medicines in this group include:

- Lenalidomide
- Thalidomide
- Pomalidomide

These medicines can have a number of different effects on your immune system. They can also affect cancer cells directly and prevent the growth of new blood vessels that tumors need to grow. These medicines can be very helpful in treating multiple myeloma. But healthcare providers aren't exactly sure how they work.

Monoclonal antibodies

These medicines are manmade versions of immune system proteins called antibodies. They attach to a specific target on cancer cells. This labels the myeloma cells so that your body's immune system attacks them. You may see the following types of monoclonal antibodies also called targeted therapy. These medicines include:

- **Daratumumab and isatuximab.** These medicines target a protein on myeloma cells called CD38. They can kill myeloma cells and also help the immune system attack the cells.
- **Elotuzumab.** This medicine targets a protein on myeloma cells called SLAMF7. It helps the immune system kill myeloma cells.

When might immunotherapy be used to treat multiple myeloma?

Immunomodulatory medicines (usually lenalidomide) are often part of the first treatment of multiple myeloma. In most cases, they're given along with other medicines.

If the initial treatment stops working, you might get pomalidomide or one of the monoclonal antibody medicines.

How is immunotherapy given for multiple myeloma?

Before treatment starts, your healthcare provider will talk about your treatment choices with you. They will explain what you might expect.

The immunomodulatory medicines are taken as pills. You may take the medicine once a day for several weeks at a time, followed by a break.

The monoclonal antibodies are given as an IV (intravenous) infusion right into your blood or as an injection (shot). You'll likely get these medicines in an outpatient setting. This means that you'll get it at a hospital, clinic, or healthcare provider's office. Then you go home after your treatment. Rarely, you may need to stay in the hospital during treatment. Your treatment team will let you know how long each treatment takes. They will watch you for reactions during treatments. Since each treatment may last a while, you may want to take along something that's comforting to you, such as music to listen to. You may also want to bring something to keep you busy, like a book or mobile device.

What are common side effects of immunotherapy?

Side effects of immunotherapy tend to be different from those of chemotherapy or other treatments. They vary from person to person. But they can be serious for some people. Ask your healthcare provider for details about side effects of the medicine you're getting. Tell your treatment team about any changes or side effects you notice. Some side effects can be prevented. And there are often things that can be done to help you feel better. In most cases, side effects start to go away over time after treatment ends.

Some of the more common side effects from **immunomodulatory medicines** include:

- Drowsiness and tiredness
- Diarrhea
- Constipation
- Nausea
- Nerve damage (peripheral neuropathy), which can cause pain, burning, tingling, or decreased feeling in your hands or feet
- Blood clots in your legs or lungs
- Low white blood cell counts, which can increase your risk of infection
- Low blood platelet counts, which can cause you to bruise and bleed easily
- Low red blood cell count. This can cause you to feel tired. It's more common in pomalidomide.
- ash, which can cause itching

These medicines can cause severe birth defects or even death to an unborn baby. For this reason, women need to take pregnancy tests regularly during treatment.

Monoclonal antibodies can have different side effects.

Side effects of daratumumab and isatuximab include:

- Serious reactions during the infusion. These might include wheezing, trouble breathing, tightness in your throat, dizziness, rash, headache, and nausea.
- Tiredness
- Nausea
- Back pain
- Fever
- Cough
- Diarrhea
- Low blood cell counts. This increases the risks of infections and bleeding.
- Lung (respiratory) infections (more common in isatuximab)

- Local reactions such as swelling, redness and itching. These may happen when daratumumab is given as a shot (injection.

Side effects of elotuzumab include:

- Serious reactions during the infusion. These might include wheezing, trouble breathing, tightness in your throat, fever, chills, dizziness, rash, and runny or stuffy nose.
- Tiredness
- Loss of appetite
- Diarrhea or constipation
- Cough
- Fever
- Nerve damage. This can cause burning, tingling, or decreased sensation in your hands or feet.
- Respiratory (lung) infections

Working with your healthcare provider

It's important to know which medicines you're taking. Write down the names of your medicines. Ask your healthcare team how each medicine works and what side effects each might have.

Talk with your healthcare providers about what signs to look for and when to call them. Make sure you know what number to call with questions. Is there a different number for evenings, weekends, and holidays?

It may be helpful to keep a diary of your side effects. A written list will make it easier for you to remember your questions when you go to your appointments. It will also make it easier for you to work with your healthcare team to make a plan to manage your side effects.