

Acute Lymphocytic Leukemia: Targeted Therapy



Targeted therapy is the use of medicines that take aim on parts of cancer cells that make them different from healthy cells. They target proteins that control how cancer cells grow, divide, and spread. They can damage the cancer cells without affecting most healthy cells. These medicines are different from standard chemotherapy (chemo) medicines. They often have milder side effects.

When is targeted therapy used for ALL?

Targeted therapy may be used as the first treatment for acute lymphocytic leukemia (ALL). Or it may be used when chemo is not working. It may also be used along with chemo to help it work better.

Types of targeted therapy for ALL

Several types of medicines are used in targeted therapy for ALL. These medicines target certain abnormal proteins on ALL cells, such as those caused by the Philadelphia chromosome. They can be helpful if your ALL cells have this mutation. These medicines include tyrosine kinase inhibitors (TKIs) such as:

- Imatinib mesylate
- Nilotinib
- Ponatinib
- Dasatinib

Other targeted medicines that may be used to treat ALL are monoclonal antibodies, including:

- Blinatumomab
- Inotuzumab ozogamicin
- Rituximab

How targeted therapy is done

Most TKI medicines are taken as pills, once or twice a day. Take them exactly as your care team tells you. Taking these medicines as directed gives them the best chance to treat ALL.

Other medicines, like blinatumomab, are given through an IV. They may be given in a healthcare provider's office, infusion clinic, or in a hospital. These medicines sometimes cause an allergic reaction. This reaction may be serious in some people. Before treatment starts, you may be given medicine to help lower the chance of an allergic reaction. Treatments might be given anywhere from once a month to several times a week.

Tell your healthcare provider about all other medicines you take. This includes over-the-counter medicines and supplements, such as herbs and vitamins. Some medicines and supplements can change the way targeted therapy medicines work.

During treatment, blood tests will be done. This is to check for a decrease in your white or red blood cells or platelet levels. Blood tests will be done more often at the start of treatment.

Possible side effects of targeted therapy

Side effects depend on the medicine you are given. Common side effects may include:

- Diarrhea or constipation

- Fatigue
- Fever
- Headaches
- Itching or skin rashes
- Muscle pain
- Nausea or vomiting
- Swelling
- Lower blood cell counts, which can increase your risk of infections, bleeding, and bruising

Side effects from these medicines tend to be mild. But in some cases, they can cause more severe side effects depending on the medicine. Ask your healthcare provider what symptoms to watch for and when to report them.

Partnering with your care team

It's important to know which medicines you're taking. Write down the names of your medicines. Ask your care team how they work, how to take them, and what side effects they might have.

Talk with your healthcare providers about what side effects to watch out for and when you should report them to your care team. Know what number to call with problems or questions, even on evenings, holidays, and weekends.

It may be helpful to keep a diary of your side effects. Write down any physical, thinking, and emotional changes. A written list will make it easier for you to remember your questions when you go to your appointments. It will also help your care team make a plan to manage your side effects.

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