

Acute Myeloid 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 AML?

Targeted therapy may be used as the first treatment for acute myeloid leukemia (AML). 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 AML

Several types of medicines are used in targeted therapy for AML. These medicines may be helpful in treating people with AML who have certain gene changes (mutations). They include:

- Midostaurin, quizartinib, and gilteritinib for FLT3 gene changes
- Ivosidenib and olutasidenib for IDH1 gene changes
- Enasidenib for IDH2 gene changes
- Venetoclax for BCL-2 gene changes
- Glasdegib for a mutation in how cells communicate
- Gemtuzumab ozogamicin for cancer cells with the CD33 protein

You and your healthcare provider will decide on the best medicine for you. Tests, like a blood draw, can help identify the gene changes you have. This will help figure out the most effective medicine for you.

Other factors, like your age, may also affect treatment choice. Some medicines may be better for people age 75 or older who aren't healthy enough to get stronger chemo. These include venetoclax and glasdegib.

How targeted therapy is done

Most of these 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 AML.

The medicine gemtuzumab ozogamicin is given through an IV, often over several hours. It may be given in a healthcare provider's office, infusion clinic, or in a hospital. This medicine sometimes causes 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. These medicines may also interact with some foods, such as grapefruits and pomegranates. Ask your care team if you need to stay away from certain foods.

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. They may include:

- Diarrhea or constipation
- Fatigue
- Fever
- Headaches
- Joint, muscle, or bone pain
- Nausea or vomiting
- Shortness of breath
- Sores in the mouth
- High blood sugar levels
- Lower blood cell counts, which can increase your risk of infections, bleeding, and bruising
- Lung infections
- Rash
- Infusion reaction from gemtuzumab ozogamicin

Side effects from these medicines tend to be mild. But in some cases, they can cause more severe side effects, such as:

- Fluid buildup around the heart or lungs, which can cause trouble breathing
- Changes in heart rhythm
- Low blood pressure
- Liver or kidney damage
- Seizures or confusion

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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