

Blinatumomab

The possible benefits of treatment vary; for some people this systemic anti cancer treatment (SACT) may reduce the risk of the cancer coming back, for others it may control the cancer and its symptoms. Your doctor will explain whether you will receive SACT or another type of treatment, or a combination of both. Your doctor or nurse will be happy to answer any questions you have about your treatment. You will find it useful to refer to the booklet 'SACT, a guide' which gives general information on systemic anti-cancer therapy and side effects.

Your treatment

Blinatumomab is classified as a monoclonal antibody which is a type of 'targeted' cancer therapy. Blinatumomab works by directing the body's T-cells (part of the immune system) to target and bind with a protein on the surface of B-cell leukaemia or lymphoma cells. Because it is so specific, blinatumomab may cause less toxicity to healthy cells. You may sometimes hear this medication referred to as Blincyto.

Blinatumomab is used to treat acute lymphoblastic leukaemia (ALL).

This treatment is given in cycles, each cycle lasts 28 days.

It is given into the vein as a continuous infusion using a pump. Blinatumomab can be given for up to 5 cycles if necessary.

You will be given some medications before each infusion to reduce the risk of infusion related reactions. Blinatumomab is given as an inpatient so we can monitor for side effects but you may not need to stay in for the whole 28 day cycle.

We will ask you to come to clinic every 4 weeks before each course of treatment. You will have a blood test at these appointments to assess whether you are fit to start your next cycle of blinatumomab. You should have a 2 week break between cycles but sometimes we may need to delay your next cycle because of low blood counts.

This treatment can have serious or possibly life-threatening side effects. It is very important that you report side effects straight away. Don't delay, if you feel unwell, please ring The Christie Hotline on **0161 446 3658**. The lines are open 24 hours a day.

Increased risk of serious infection

You are vulnerable to infection while you are having chemotherapy. Minor infections can become life-threatening in a matter of hours if left untreated. Symptoms of infection include fever, shivering, sweats, sore throat, diarrhoea, discomfort when passing urine, cough or breathlessness. We recommend that you use a thermometer so you can check your temperature. You can buy one from your local chemist.

If your temperature is 37.5°C or above, or below 36°C or you have symptoms of an infection, contact The Christie Hotline straight away.



Possible side effects

Chemotherapy can cause many different side effects. Some are more likely to occur than others. We are all different, so we may get different side effects with varying severity. Most side effects are usually temporary, but in some rare cases they can be life-threatening. It is important to tell your hospital doctor or nurse about any side effects so they can be monitored and, where possible, treated.

Common side effects (more than 1 in 10)

- **Low white blood cell count**

When your white blood cells are low you will be at an increased risk of infections. If your white cells are very low you may need extra antibiotics and/or GCSF growth-factor injections.

- **Bruising or bleeding**

This treatment can reduce the production of platelets which help the blood to clot. Tell your doctor if you have unexplained bruising or bleeding, such as nosebleeds, bloodspots or rashes on the skin and bleeding gums. You may need a platelet infusion.

- **Anaemia (low number of red blood cells)**

While having this treatment you may become anaemic. This may make you feel tired and breathless. Let your doctor or nurse know if these symptoms are a problem. You may need a blood transfusion and/or an erythropoietin growth-factor injection.

- **Fever**

Please let your healthcare professional know urgently if you have a temperature greater than 37.5°C

- **Headache**

Take simple analgesia and monitor. Let your healthcare professional know if this becomes more severe.

- **Infusion reaction**

Some people have an allergic reaction to blinatumomab. This reaction is most likely to happen in the first 48 hours of having this drug. Symptoms include fever, chills, muscle pain, rash, facial swelling or difficulty breathing. You will have medication prior to the infusion to reduce the risk of these reactions.

- **Neurotoxicity**

Some patients may experience neurological complications, which can occur at any time, even a week or more into the infusion. These included seizures, confusion, disorientation, difficulty speaking or slurred speech, loss of balance and loss of consciousness. Notify your care team right away if you develop any neurologic changes. You will be monitored regularly for this.

- **Gastrointestinal disturbance**

This treatment can cause constipation, diarrhoea, nausea, an increase or decrease in weight. It is important to drink plenty of fluid and maintain a balanced diet. Please report any of these symptoms to your nurse or doctor.

- **Cytokine release syndrome**

Cytokines are a group of proteins in the body that play an important part in boosting the immune system. Blinatumomab stimulates the immune system to make large amounts of cytokines. This can cause symptoms which can be severe. Some of the symptoms include fever, chills, a headache, difficulty breathing, and dizziness. Let your medical team know if you have any of these symptoms. You will be monitored closely for these.

- **Fatigue**

Tiredness and fatigue can happen during and after treatment. Doing gentle exercises each day can help keep your energy up but make sure to take plenty of rest if you need it and ask others for help.

Uncommon side effects (less than 1 in 10)

These side effects happen between 1 and 10 out of every 100 people (between 1 and 10%).

You might have one or more of them. They include:

- tingling of the skin (paraesthesia)
- memory problems such as difficulty remembering, thinking or processing thoughts
- feeling very sleepy
- numbness/nerve problems
- high blood pressure
- episodes of feeling warm and reddening of the skin (flushing)
- breathing problems such as shortness of breath or wheezing
- gaining weight
- pancreatic problems.

Important information (Warning!)

Due to the potential for neurologic events, patients receiving blinatumomab should refrain from driving, engaging in hazardous occupations or activities such as driving or operating heavy or potentially dangerous machinery while blinatumomab is being administered.

The following symptoms require medical attention, but are not an emergency. Contact your health care provider within 24 hours of noticing any of the following:

- Nausea (interferes with ability to eat and unrelieved with prescribed medication).
- Vomiting (vomiting more than 4 to 5 times in a 24 hour period).
- Diarrhoea (4 to 6 episodes in a 24-hour period).
- Constipation unrelieved by laxative use.
- Extreme fatigue (unable to carry on self-care activities).
- Mouth sores (painful redness, swelling and ulcers).
- Yellowing of the skin or eyes.
- Swelling of the feet or ankles.
- Sudden weight gain.
- Signs of infection such as redness or swelling, pain on swallowing, coughing up mucus, or painful urination.
- Unable to eat or drink for 24 hours or have signs of dehydration: tiredness, thirst, dry mouth, dark and decreased amount of urine, or dizziness.

Serious and potentially life threatening side effects

In a small proportion of patients chemotherapy can result in very severe side effects which may rarely result in death. The team caring for you will discuss the risk of these side effects with you.

Late side effects

Some side effects may become evident only after a number of years. In reaching any decision with you about treatment, the potential benefit you receive from treatment will be weighed against the risks of serious long term side effects to the heart, lungs, kidneys and bone marrow. With some drugs there is also a small but definite risk of developing another cancer. If any of these problems specifically applies to you, the doctor will discuss these with you and note this on your consent form.

Sex, fertility and contraception Protecting your partner and contraception:

Protecting your partner and contraception: We recommend that you or your partner use a barrier form of contraception during sexual intercourse while you are having chemotherapy. Chemotherapy is dangerous to unborn babies. It is very important that you do not get somebody pregnant or become pregnant during your treatment and for 8 months after the last dose. Barrier contraception also reduces the risk of infection and protects you and your partner from any chemotherapy drugs that may be present in semen or in the vagina.

If you suspect that you may be pregnant, please tell your doctor immediately.

Please tell your doctor if you are using contraception in this needs to be changed.

- **Fertility**

Chemotherapy may affect your ability to have children. Your doctor or nurse should have discussed this with you. If not, please ask them before you start treatment. They will be able to discuss the possibility of sperm banking or freezing eggs.

- **Periods; becoming pregnant**

If you have periods, you may find that these become irregular or stop during chemotherapy/treatment, but some people do remain fertile (able to get pregnant). It is important you do not become pregnant. Once treatment is over, your periods may not return to normal because chemotherapy can cause infertility (not being able to get pregnant).

- **Getting someone pregnant**

Chemotherapy treatment can affect the amount of sperm you produce, the ability of that sperm to fertilise an egg and a change in testosterone levels. You may remain fertile (able to get someone pregnant) in the early stages of treatment, but you should use a barrier method of contraception such as condoms to prevent this.

Infertility may be permanent. If you have any worries or questions about this, please ask the doctor or SACT nurse.

Breast feeding

There is no data on the presence of blinatumomab or its metabolites in human milk, the effects on the breast fed child, or the effects on milk production. Because of the potential for adverse reactions in breast fed children, women must not breast feed during treatment with blinatumomab and for at least 2 months after the final dose.

Contacts

If you have any general questions or concerns about your treatment, please contact the haematology team.

Haematology nurse specialists **0161 918 7962**

Haematology and transplant day unit **0161 446 3924**

General enquiries **0161 446 3000**

For urgent advice ring The Christie Hotline **0161 446 3658** (24 hours a day, 7 days a week)

Your consultant is:

Your hospital number is:

Your key worker is:

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The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham, Salford or Macclesfield. Opening times can vary, please check before making a special journey.



Contact The Christie Hotline for
urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week