

Plain English Summary

Treatments for acute lymphoblastic leukaemia

What does the guidance say?

Blinatumomab, dasatinib, inotuzumab ozogamicin and ponatinib are recommended for listing on the Medication Assistance Fund (MAF) for government funding for patients with acute lymphoblastic leukaemia who meet certain criteria.

Funding will be available for blinatumomab from 4 January 2022; from 1 April 2022 for inotuzumab; and from 1 September 2022 for dasatinib and ponatinib.

What is acute lymphoblastic leukaemia?

Acute lymphoblastic leukaemia (ALL, also called acute lymphocytic leukaemia) is a rare, fast-growing cancer that affects the blood and bone marrow and causes white blood cells to grow uncontrollably and produce “leukaemia cells”. As the number of leukaemia cells increases in the blood and bone marrow, there is less room for healthy blood cells, making patients more susceptible to anaemia (lack of red blood cells) and infections. Doctors classify ALL into different subtypes depending on the type of blood cells that are affected.

When leukaemia cells grow instead of B-cell lymphocytes, this is known as B-ALL. This is the most common subtype of ALL in children and adults. Early symptoms may include bleeding from the gums, bone pain, fever, frequent infections, pale skin, weakness and shortness of breath.

Some patients with B-ALL have a genetic mutation in the Philadelphia chromosome in the leukaemia cells. This is called Philadelphia chromosome positive ALL (Ph+ ALL). Doctors test patients with ALL for this mutation to determine which treatment is likely to work best.

After treatment, some patients may have a small number of cancer cells that remain in the body, which is known as minimal residual disease (MRD). These cancer cells don't cause symptoms but have the potential to help the cancer to come back (relapsed ALL). Some patients with MRD may need additional treatment to stop a relapse from happening.

Some treatments stop working well after patients have been taking them for a while, and the cancer can begin to worsen. This is known as refractory ALL.

What are dasatinib and ponatinib?

Dasatinib and ponatinib belong to a group of medicines called tyrosine kinase inhibitors (TKIs) which can stop cells from growing and dividing and can prevent cancer from spreading. They are taken orally and are usually given to patients with Philadelphia chromosome positive ALL (Ph+ ALL).

Your doctor will tell you which treatment is most suitable for you, how much you need to take and how long you need to take it for.

Plain English Summary

Treatments for acute lymphoblastic leukaemia

Who can have dasatinib or ponatinib?

Dasatinib is used in combination with chemotherapy for patients with Ph+ ALL who have not had treatment before; or who have had imatinib before but need to try a different treatment because they cannot tolerate it, or it is no longer working well.

Ponatinib is given to patients with Ph+ ALL if they:

- have received dasatinib but it is not working well anymore; or
- cannot tolerate dasatinib and are unable to take imatinib for clinical reasons; or
- have a T315I genetic mutation confirmed by a diagnostic test.

What are blinatumomab and inotuzumab?

Blinatumomab and inotuzumab are a type of cancer treatment called immunotherapy that helps the immune system find and destroy leukaemia cells. Blinatumomab is given as a drip into a vein (intravenously) continuously for 28 days using an infusion pump, then patients have a break from treatment for 14 days (one treatment cycle is 42 days).

Inotuzumab is given intravenously over one hour once every week for three weeks, then patients have a break from treatment for one week (this is one treatment cycle).

After each cycle with either blinatumomab or inotuzumab, your doctor will review your response to treatment before deciding if you should receive another cycle. Most people need 2 to 3 treatment cycles during their lifetime; a few people may need more. Your doctor will tell you which treatment is most suitable for you, how much you need to take and how long you need to take it for.

Who can have blinatumomab or inotuzumab?

Blinatumomab is used to treat patients with B-ALL who have successfully stopped the cancer from growing (complete remission) with other treatment but still have minimal residual disease (MRD).

Inotuzumab is used to treat patients with relapsed or refractory B-ALL. If the patient has Ph+ ALL, they must have tried a TKI before having inotuzumab.

For both treatments, doctors will assess specific clinical criteria and how a patient responds to treatment to determine how many treatment cycles are required.

Plain English Summary

Treatments for acute lymphoblastic leukaemia

Why were these treatments recommended for funding?

ACE evaluates how well a treatment works in relation to how much it costs compared to other treatments. Blinatumomab, dasatinib, inotuzumab and ponatinib were recommended because their benefit in improving survival for certain patients with ALL justifies their costs.

What does listing on MAF mean for me?

The MAF helps people pay for expensive treatments that are clinically necessary. If your doctor prescribes blinatumomab, dasatinib, inotuzumab or ponatinib for ALL, and you meet the MAF criteria, your treatment cost will be subsidised by 40% to 75%.

All four drugs have also been included on the Cancer Drug List (CDL) and are claimable under MediShield Life. The subsidy class and MediShield Life claim limits are available at go.gov.sg/moh-cancer-drug-list.

Published: 4 January 2022

The Agency for Care Effectiveness (ACE) was established by the Ministry of Health (Singapore) to drive better decision-making in healthcare through health technology assessment (HTA), clinical guidance and education. It publishes guidances on diagnosing, treating, and preventing different medical conditions based on the latest research information available worldwide.

This summary is not, and should not be regarded as, a substitute for professional or medical advice. Please seek the advice of a qualified healthcare professional about any medical condition.

To find out more about ACE visit www.ace-hta.gov.sg