What are the Side Effects of Treatment?

Most of the side effects of treatment for ALL come from the chemotherapy. Chemotherapy kills leukaemia cells that reproduce rapidly. It also affects fast growing normal cells, including the cells from the hair, guts, mouth and bone marrow.

Nausea, vomiting, presence of mouth ulcers and hair loss are common but temporary. Measures will be taken to minimise the discomfort of nausea,vomiting,and mouth ulcers. Low blood count cells causing anaemia and thrombocytopenia (reduction in platelet count) is almost universal. Transfusion treatment is commonly required to reduce the adverse effects of anaemia and to prevent or control bleeding due to low platelet counts. Advice will be given on precautions against infection due to neutropenia (low white cell count).

Chemotherapy may have long-term side effects such as toxicities to the heart, hormonal functions and later fertility. There is also a small risk of developing a second cancer in later life, especially when radiotherapy has been used.

Will there be any Risk to Other Family Members?

ALL is almost never hereditary in origin and ALL affecting more than one member of the family is extremely rare. Like other cancers, ALL is not contagious and cannot be passed from one individual to another, even with close contact or food sharing. Therefore, parents should not be burdened by the fear that the disease will affect a subsequent sibling.

What a Parent Can Do to Help a Child with ALL?

Parents are the greatest and most important support person to a child with serious illness such as ALL. The medical and nursing team is always available to discuss with the parents about the nature of the illness, the treatment and its side effects, and care of the child after the completion of treatment. We believe that all children with cancer should have the opportunity to recover physically and emotionally. Caring parents play an important role in any successful treatment.

What Kind of Support is Available?

CanHOPE is a non-profit cancer counselling and support service provided by Parkway Cancer Centre, Singapore. CanHOPE consists of an experienced, knowledgeable and caring support team with access to comprehensive information on a wide range of topics in education and guidelines in cancer treatment.

CanHOPE provides:

- Up-to-date cancer information for patients including ways to prevent cancer, symptoms, risks, screening tests, diagnosis, current treatments and research available.
- Referrals to cancer-related services, such as screening and investigational facilities, treatment centres and appropriate specialist consultation.
- Cancer counselling and advice on strategies to manage side effects of treatments, coping with cancer, diet and nutrition.
- Emotional and psychosocial support to people with cancer and those who care for them.
- Support group activities, focusing on knowledge, skills and supportive activities to educate and create awareness for patients and caregivers.
- Resources for rehabilitative and supportive services
- Palliative care services to improve quality of life of patients with advanced cancer.

The CanHOPE team will journey with patients to provide support and personalised care, as they strive to share a little hope with every person encountered.

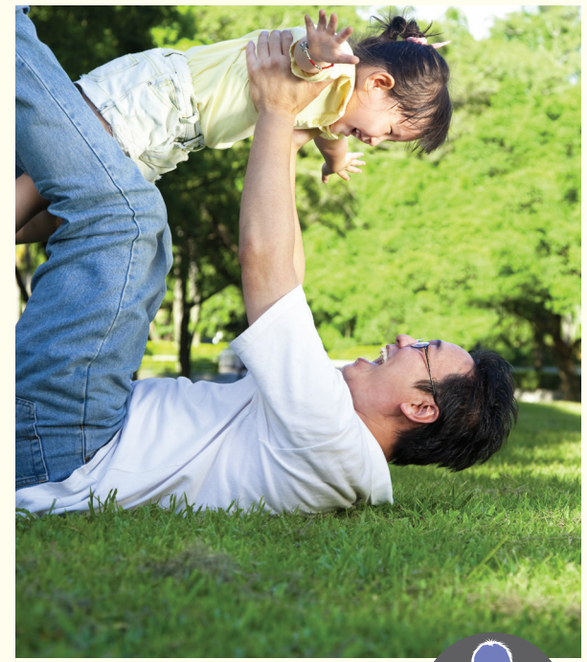
canHOPE

CanHOPE Counsellors contact:
Cancer counselling hotline:
(65) 6738 9333
Email: enquiry@canhope.org
www.canhope.org

PCC
PARKWAY CANCER CENTRE

Acute Lymphoblastic Leukaemia (ALL) in Children

ALL is a type of blood cancer that affects immature white blood cells from the bone marrow



www.parkwaycancercentre.com

What is Acute Lymphoblastic Leukaemia (ALL)?

ALL is a type of blood cancer that affects immature white blood cells from the bone marrow. The immature cells multiply in an uncontrollable manner and crowd the bone marrow. This obstructs the production of normal blood cells. Children with ALL suffer from anaemia, recurrent infections, bruises and bleeding easily as their bone marrow does not produce enough red blood cells, white blood cells and platelets.

How Common is ALL in Children?

ALL is the most common form of cancer in children. Every year, about 30-40 out of a million children will be diagnosed with ALL. Of every three found to have cancer, one will have ALL.

What Causes It?

There are no proven causes of ALL though research has been done to identify the many possibilities. There are some probable risk factors that are thought to cause genetic damage which may lead to the development of ALL:

- Infection: The delayed experience with common childhood infections or an abnormal response by the child's immune system to these infections may be involved. ALL is not contagious. Children cannot get leukaemia from other children.
- Ionising radiation: Children exposed to huge doses of ionising radiation (Energy produced by X-rays and radioactive materials) before birth or in their early years may be more at risk of developing ALL.
- Genetic factors: ALL is not an inherited disease, but children with certain congenital disorders such as Down syndrome are at a higher risk of developing ALL.

Symptoms

Symptoms of ALL are mainly caused by the lack of normal blood cells in the blood system. These include:

- Anaemia caused by low red blood cells level.
- The child may appear tired easily and look pale.
- Easy bruising or bleeding due to low platelets level.
- Frequent or persistent infections occur when the child does not have adequate mature white blood cells to fight infections.
- Bone and/ or joint pain.
- Other complaints which may be included are swollen lymph nodes, loss of appetite, loss of weight, chest pain and abdominal discomfort.

Diagnosis

A complete evaluation of ALL includes blood tests and bone marrow examination:

- Full Blood Counts (FBC): This test involves taking a blood sample and sending it to the laboratory. Red blood cells, white blood cells and platelets will be counted. The cells will also be examined under the microscope to look out for abnormal blood cells.
- Bone Marrow Examination: This test is done to confirm or (refute) a diagnosis of ALL. This examination allows the doctor to decide on the best treatment for the child. This procedure involves taking a small sample of bone marrow from the hip bone for laboratory tests. A diagnosis is confirmed by the presence of leukaemia cells in the bone marrow. Additional tests will also be done to ascertain the type of leukaemia and to predict the outcome after treatment.
- Cerebro Spinal Fluid (CSF) Examination: A small sample of the CSF that surrounds the brain and spinal cord will be collected in a procedure known as Lumbar Puncture. This sample is tested in the laboratory for presence of leukaemia cells within the central nervous system. Additional treatment is needed if leukaemia cells are detected in the CSF.
- Other Tests: Other laboratory tests and x-rays will provide information about the functions of various vital organs and the general health of your child. These tests may be done from time to time to compare the progress of your child in the later phase of treatment.

Treatment

A combination of chemotherapy has been proven to be the best treatment for children with ALL. This can be given by mouth, by injection into the vein or into the cerebrospinal fluid. Chemotherapy may be used in conjunction with radiation therapy if required.

Children with ALL treated in contemporary medical facilities have about 80%-90% chance of cure after treatment. Prompt medical attention and aggressive therapy are important for the best progress.

Is Bone Marrow (or Stem Cell) Transplantation Needed?

Transplantation treatment is generally not required. Bone marrow transplantation will be required for leukaemia cells that carry certain molecular changes, no response to chemotherapy and when the disease comes back during or after treatment.

Why Children with ALL may Receive Different Treatment?

Treatment of ALL is determined by the leukaemia cell type, molecular changes and the initial response to chemotherapy. This is meant to maximise the chance of cure while avoiding an excess of long-term side effects from treatment.

Leukaemia cells are classified at the time of diagnosis into B-cell or T-cell disease. They are also studied to see if they have any chromosomal or molecular changes at the DNA level. The reduction of leukaemia cells both in the blood and in the bone marrow is closely monitored during treatment. These are important to determine the prognosis of a child with ALL.