# **About My Diagnosis**

# **Acute Lymphoblastic Leukemia**

#### What is Acute Lymphoblastic Leukemia?

Acute lymphoblastic leukemia (ALL) is a type of blood cancer. It affects the white blood cells. The white blood cells are the cells in the body responsible for fighting off infections. With ALL, you can produce too many white cells. Some of these cells are young and do not function properly and are therefore unable to protect you from getting infections.

Too many young white blood cells can also overcrowd the bone marrow. When this happens, there is not enough space for the normal blood cells to develop and mature. The young, abnormal white blood cells can move outside the bone marrow into the other parts of the body such as the liver, spleen, lymph nodes, brain and testicles in men. They can make these parts of the body swell.

With ALL, the abnormal cells can grow very fast within a very short period of time. This is why it is called 'acute'. The word 'lymphoblastic', on the other hand, indicates which part of the blood cell type it comes from.

#### What Causes Acute Lymphoblastic Leukemia?

We really do not know why ALL happens to some people and not to others. Research studies are trying to find the cause and a cure for ALL.

There are some things that may increase your chances of ALL. These risk factors do not cause ALL, however, they may increase the chances of getting it.

## Some known risk factors:

- · Being male
- Being over 70 years old or older
- Having previously had chemotherapy
- Having been exposed to radiation
- · Having an inherited condition, such as Down's Syndrome

# What are the Signs and Symptoms of Acute Lymphoblastic Leukemia?

Early signs and symptoms of ALL are similar to flu symptoms or other common diseases. Below are some symptoms of all:

- Swollen lymph nodes
- Fever on and off
- · Sweating a lot at night
- Losing weight and appetite
- Feeling tired all the time
- Keeping getting infections
- Having painful bones or joints
- Bleeding from gums or nose
- Bruising easily
  - Having flat pinpoint dark red spots on the skin
  - Feeling full and having discomfort in the abdomen

These symptoms are often present if your red and white blood cells are low in number. Low red blood count will make you feel very tired or breathless, while low platelet counts can cause bleeding.

If you are getting these symptoms often, you should consult your doctor or primary healthcare physician A simple blood test is often enough to help tell if you have ALL or not.

## How Will I Know if I Have Acute Lymphoblastic Leukemia?

If you have any of the signs and symptoms mentioned above, it is important that you see a doctor. A small blood test is usually taken to check the number and level of your blood cells. This is called a blood count. It may take two or more days before you will get the result.

In most cases, there is nothing to worry about. However, if you were found to have ALL, or your blood result is not very clear, you will be asked to undertake further tests.

# What Other Tests do I Have to do if My Doctor Suspects Acute Lymphoblastic Leukemia? Blood Tests

It may be necessary to do more blood tests if your first blood test is not very clear. Your doctor may send your blood sample to a bigger laboratory for further testing to check for changes in your blood.

#### **Bone Marrow Procedure**

This test involves taking a small sample of marrow and bone from the hip. The bone marrow sample would help check for abnormalities and will help tell if the blood cells in the bone marrow are affected. If you are feeling anxious, please let your nurse or doctor know so we can support you and may be able to give you medication to help you sleep whilst having this procedure done.

#### **Lumbar Puncture**

A very small sample of the fluid from the spine may be taken to find out if there are leukemia cells in your spine and brain. The doctor will place a small needle in the lower part of your spine to get the spinal fluid. This procedure usually takes 10 to 15 minutes. Your nurse specialist or your doctor will talk to you about this in more detail if you need this test

#### Chest X-ray

This will help determine the general condition of your chest. In ALL, the leukemia cells can swell and grow in the center of the chest and around the heart. A chest X-ray can help tell if there is a cluster of leukemia cells.

#### CT-Scan

This test will tell us of your general health condition and if other parts of your body are affected. This is a painless procedure.

# **Thinking About Treatment**

# **Acute Lymphoblastic Leukemia**

#### What is the Treatment for Acute Lymphoblastic Leukemia?

#### Chemotherapy

The treatment for Acute Lymphoblastic Leukemia (ALL) is chemotherapy. It can be given through the veins and can also be taken by mouth. Chemotherapy can kill the abnormal cells and some of the normal cells. It is usually used in combination with other chemotherapy medications to get the best effect. There are several combinations of chemotherapy used to treat ALL. The chemotherapy combinations chosen will be based on international standards. These are the standards that international experts have agreed are the best way to treat ALL. This means you will be receiving the same chemotherapy medications that patients with the same condition are given in other parts of the world.

Chemotherapy is given over a certain period of time. Each period of time is called a "cycle" or course. One cycle is usually between 21 to 28 days. The whole treatment may last from four to six months. You may be asked to stay in hospital for at least two weeks when having your chemotherapy. You will then be allowed to go home and asked to come back for your next cycle of chemotherapy.

## **Chemotherapy Side Effects**

Like any other medications, chemotherapy has side effects like anemia and can cause a weakened immune system. Your clinical nurse specialist and doctor will talk to you about this in detail.

#### Radiotherapy

In some people, even after chemotherapy, there could be some clusters of leukemia cells left in the chest or other parts of the body. Your doctor may recommend that you have radiotherapy on the affected part or parts to get rid of possible remaining leukemia cells.

In radiotherapy, a small amount of intense x-rays are given on the affected area of the body. This is usually given for a few minutes over a number of days. This will be discussed with you if this procedure is recommended.

# **Bone Marrow Transplant**

For some people bone marrow transplantation is a suitable form of treatment. If this is something that you might benefit from, your clinical nurse specialist and your physician will talk to you about this.