

## About My Diagnosis

# Acute Promyelocytic Leukemia

### What is Acute Promyelocytic Leukemia?

Acute promyelocytic leukemia (APL) is a type of blood cancer. It affects the blood and the soft tissue found inside the bones, called the bone marrow. Normal bone marrow produces different types of good cells to keep us alive. In APL, blood cells, called promyelocytes, which are responsible for producing the white blood cells (neutrophils) become abnormal and do not work properly.

The promyelocytes can grow in huge numbers, preventing normal cells from developing. They can occupy the bone marrow and spill over in the veins and travel all over the body. When this happens, you may feel unwell and may experience problems in the liver, spleen or the brain.

### What Causes Acute Promyelocytic Leukemia?

All cells have genes. These genes have a set of instructions for each cell on what to do, or how to behave. They tell the cells when to grow and how to mature. The genes are usually organized in structures called the chromosomes.

In APL when these cells are developing, they make a mistake of transferring part of one chromosome to another. These cells then fuse together to form a new chromosome. This process is called translocation.

The chromosomes affected by translocation in APL are chromosomes 15 and 17. The translocation results to an abnormal gene called PML/RARA. Doctors will look for this gene from the sample taken from your bone marrow to confirm if you have APL.

We do not know why translocation happens and what makes a person at risk.

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

#### Some known risk factors:

- Having had chemotherapy treatment
- Being older
- Having family members known to have APL or other types of cancer

## **What are the Signs and Symptoms of Acute Promyelocytic Leukemia?**

The signs and symptoms of APL are not very clear and not everyone will have the same signs and symptoms. The following may suggest that you could have APL:

- Being tired all the time
- Difficulty in breathing even when resting
- Chest pain
- Bleeding from the mouth
- Blood in your stools or urine
- Headaches all the time
- Loss of weight
- Keeping getting infections
- Red/pinkish/dark, flat pinpoint rash on your arms, legs, chest or back
- Bruising easily

If you have any of these symptoms or are worried about your health, please see your primary healthcare doctor who will check and advice you on what to do.

It is important to remember that, in APL, the signs and symptoms will not go away without any treatment.

## **How Will I Know if I Have Acute Promyelocytic 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 APL or your blood result is not very clear then, you will be asked to undertake further tests.

## **What Other Tests do I Have to Have if My Doctor Suspects Acute Promyelocytic Leukemia?**

### **Blood Test**

It may be necessary to do more blood test if the first blood test is not very clear or if there are abnormal blood cells. Your doctor might send your blood sample 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 while having this procedure done.

Your blood and the sample from your bone marrow will be tested to check for any abnormal chromosomes. Your doctor will be looking particularly for the PML/RARA gene.

### **Clotting Test**

APL affects the proteins in the body responsible for clotting. This makes someone with APL to have increased risk of bleeding. This is why your clotting will be tested initially then regularly when you are having treatment.

## Thinking About Treatment

### Acute Promyelocytic Leukemia

#### What is the treatment for Acute Promyelocytic Leukemia?

##### Drug Therapy

Most people with Acute Promyelocytic Leukemia (APL) have a very good chance of being cured. If you have APL, your doctor will put you on a medication called ATRA (All-trans retinoic acid) and chemotherapy.

ATRA is comes from Vitamin A. It will help the promyelocytes mature and function normally. This will also help reduce the abnormal cells and improve the normal cell count.

The chemotherapy will help kill the remaining abnormal cells. Chemotherapy and ATRA are given over a certain period of time. This period of treatment is known as 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.

##### Side Effects

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

Some patients may also be given medications to take after they finish their cycles or courses. This is called maintenance therapy. This will help prevent or reduce the risk of getting APL again.