Understanding leukaemia

MARCELLE RUTH
CANCER CENTRE & SPECIALIST HOSPITAL

The Marcelle Ruth Cancer Centre & Specialist Hospital is the first comprehensive healthcare centre of its kind in Nigeria and indeed West Africa.

> Our promise

In everything we do, we believe that compassion and care make all the difference.

With vast experience and understanding, our specialist team uses the very latest technology and treatments to deliver the best outcomes possible.

From screening and diagnosis to treatment and ongoing support, we are committed to providing outstanding care to those in need.

About this booklet

We understand it can be overwhelming for anyone to undergo cancer care, but we are here to provide you with help and support.

The focus of this leaflet is to help you and your family understand more about Leukaemia.

Leukaemia

Leukaemia is a blood cancer caused by a rise in the number of white blood cells in the body.

Those white blood cells crowd out the red blood cells and platelets that the body needs to be healthy, then the extra white blood cells don't function normally.

How does leukaemia happen?

Blood has three major types of cells: white blood cells that fight infection, red blood cells that carry oxygen and platelets that help blood clot.

Everyday, the bone marrow make billions of new blood cells, and most of them are red cells. When there is leukaemia, the body makes more white cells than it needs.

The leukaemia cells can't fight infections the way normal white blood cells do. And because there are so many of them, they start to affect the way the organs work. Over time, there won't be enough red blood cells to supply oxygen, enough platelets to clot the blood, or enough normal white cells to fight infection.

Leukaemia causes and risk factors

No one knows exactly what causes leukaemia. People who have it have certain unusual chromosomes, but the chromosomes don't cause leukaemia.

Leukaemia can't be prevented but certain things can trigger it. There might be a higher risk if you:

- smoke
- are exposed to a lot of radiation or certain chemicals
- have had radiotherapy or chemotherapy to treat cancer
- have a family history of leukaemia
- have a genetic disorder like Down's syndrome.

Leukaemia classifications

Leukaemia is grouped by how fast it develops and gets worse, and by which type of blood cell is involved.

The first group, depending on how fast it develops, is divided into acute and chronic leukaemia:

Acute leukaemia

Occurs when most of the abnormal blood cells don't mature and can't carry out normal functions. It can get bad very fast.

Chronic leukaemia

Occurs when there are some immature cells, but others are normal and can work the way they should. It gets bad more slowly than acute forms.

The second group, depending on what type of cell is involved, is divided into lymphoblastic and myelogenous leukaemia:

Lymphocytic (or lymphoblastic) leukaemia

Involves bone marrow cells that become lymphocytes, a kind of white blood cell.

Myelogenous (or myeloid) leukaemia

Involves the marrow cells that create red blood cells, platelets and other kinds of white blood cells.

Types of leukaemia

Acute Lymphoblastic Leukaemia (ALL)

This is the most common form of childhood leukaemia, rarely found in adults.

Acute Myelogenous Leukemia (AML)

This is the second most common form of childhood leukaemia and one of the most common forms for adults.

Chronic Lymphocytic Leukaemia (CLL)

This is the other most common form of adult leukaemia. Some kinds of CLL will be stable for years and won't need treatment. But with others, the body isn't able to create normal blood cells and treatment would be needed.

Chronic Myelogenous Leukaemia (CML)

With this form, there might not be noticeable symptoms. It might also not be diagnosed until a routine blood test is carried out. People 65 and older have a higher risk of this type.

Leukaemia symptoms

- Weakness or fatigue
- Bruising or bleeding easily
- Fever or chills
- Recurrent or severe infections
- Bone/joint pain
- Headaches
- Vomiting
- Seizures
- Weight loss
- Night sweats
- Shortness of breath
- Swollen lymph nodes or organs like spleen

Leukaemia diagnosis

Blood tests
A full blood count (FBC) looks at the number of different types of blood cells.

Blood smear
A blood smear to look for unusual or immature cells.

Bone marrow biopsy
This test involves marrow taken from the pelvic bone with a long needle. It helps to diagnose the type of leukaemia and severity.

Spinal tap
This involves fluid from the spinal cord. It helps to determine the extent of spread.

Imaging tests
CT, MRI and PET scans can spot signs of leukaemia.

Leukaemia treatments
Treatment depends on the type of leukaemia diagnosed, spread and the general heath of the patient. The main options are:

Chemotherapy
Uses drugs to kill cancer cells in the blood and bone marrow.

Radiation
Uses high-energy X-rays to kill leukaemia cells or keep them from growing.

Biologic therapy
Also called immunotherapy, helps the immune system fight and attack cancer cells.

Targeted therapy

Uses drugs to block specific genes or proteins that cancer cells need to grow. This treatment can stop the signals that leukaemia cells use to grow and divide, cut off their blood supply or kill them directly.

Stem cell transplant

Replaces the leukaemia cells in the bone marrow with new ones that make blood cells. The doctor can get the new stem cells from your own body or from a donor. First, high doses of chemotherapy will be given to destroy the cancer cells in the bone marrow. Then, the new stem cells are administered through an infusion into one of the veins. They grow into new, healthy blood cells.

Notes

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