

## Definition

Leukemia is cancer of the blood cells. It is characterized by the widespread uncontrolled proliferation of large numbers of abnormal blood cells, usually white blood cells, which take over the bone marrow and quickly spread to the blood stream. Other organs that may also be affected include lymph nodes, spleen, liver, central nervous system and other organs. Leukemia has many types and subtypes, affecting children and adults alike.

## Statistics

- Leukemia accounts for about 33% of cancer cases in children aged 0-14
- Leukemia is the leading cause of death by disease in children up to age 14. **The good news - mortality rates for childhood cancer have decreased by 66% since 1969.**
- Leukemia is diagnosed 10 times more often in adults than in children.
- Every day 129 are diagnosed with leukemia and 60 lose the fight

## Types

The four main types of leukemia are:

- Acute lymphoblastic leukemia, or ALL
- Acute myelogenous leukemia, or AML
- Chronic lymphocytic leukemia, or CLL
- Chronic myelogenous leukemia or CML

## Risk Factors

- Exposure to High Levels of Radiation
- Chemical Exposure
- Smoking
- Family History

## Cause

The causes of leukemia are largely unknown.

## Tests and Diagnosis

- CBC
- Biopsy – bone marrow, lymph node
- Lumbar puncture
- Imaging tests – X-ray, CT Scan, MRI, Ultrasound

## Signs and Symptoms

- Fever, chills
- Fatigue, weakness
- Loss of appetite, weight loss
- Night sweats
- Bone/joint pain
- Abdominal discomfort
- Headaches
- Shortness of breath
- Frequent infections
- Easy bruising or bleeding
- Petechiae (small red spots under the skin)
- Anemia

- Leukopenia
- Thrombocytopenia
- Swollen lymph nodes
- Enlarged spleen or liver

## **Treatment**

- Chemotherapy
- Biological therapy
- Targeted therapy
- Radiation therapy
- Stem cell transplant

## **QUESTIONS**

- As a medical practitioner taking care of a patient with leukemia, what interventions should you do to prevent your patient from acquiring other infections?
- As you are approaching your patient with leukemia, you see how sad she looks. She then tells you she feels her life is about to end. How would you respond?
- A patient with leukemia is about to be discharged from the hospital. What advices would you give to her family to help the patient cope with her disease?