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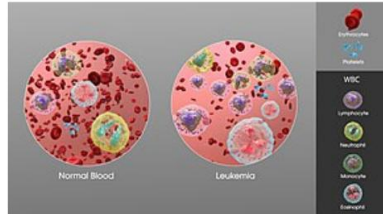
## Abstract

Leukemia is an amalgam of cancers and its also called blood cancer. Many people have lost their life due to this cancer. Abnormal growth of cells is called cancer. In simple language we can say that they are actually the abnormal WBC cells which are not fully developed is called leukemia cells. Leukemia cells grow rapidly than as compared to normal cells. The abnormal cells survive longer, build up in larger numbers and enter the bloodstream. In 1811, Peter Cullen defined a case of splenitis acutus with unexplainable milky blood. Alfred Velpeau defined the leukemia associated symptoms and observed pus in blood vessels 1825. In 2012, 3,52,000 people were affected by leukemia and 2,65,000 deaths occurred. AML is the most common type of acute leukemia in adults. CLL the most common chronic adult leukemia. Chronic leukemias are rare in children.

causes are mentioned below

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- . Exposure to UV rays
- . Prior chemotherapy
- . Smoking
- . Family history
- . Ionizing radiation
- . Work involving chemicals
- . Human T-cell leukemia virus-I [HTLV-I]
- . Myelodysplastic syndrome
- . Inherited syndromes



### INHERITED SYNDROME INHERITED SYNDROME

Leukemia too depends on some inherited syndromes. There is a 20% chance of developing leukemia in children patients who have Down's syndrome. The 10% chances are for transient leukemia that resolves within months of birth.

### ACUTE LEUKEMIA

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It's a type of cancer of the blood and bone marrow—the spongy tissue inside bones where blood cells are made. The disease progresses rapidly and creates immature blood cells, rather than mature ones. Its also called acute lymphoblastic leukemia.

#### SYMPTOMS

- Signs and symptoms of acute lymphocytic leukemia may include
- . bleeding from the gums
  - . bone pain
  - . fever

### CHRONIC LEUKEMIA

It is a type of cancer of the blood and bone marrow—the spongy tissue inside bones where blood cells are made. The term chronic comes from the fact that this leukemia typically progresses more slowly than other types of leukemia. It most commonly affects older adults.

The term lymphocytic in chronic lymphocytic leukemia comes from the cells affected by the disease.

#### SYMPTOMS

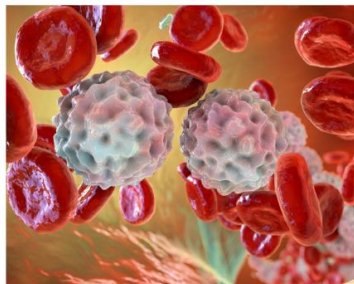
- . enlarged pain

**PRIOR CHEMOTHERAPY**  
Chemotherapy is the use of drugs to treat cancer. Chemo drugs travel through the bloodstream to reach carcinogenic cells all over the body. This method has made chemo

useful for cancers such as Leukemia that has spread in the body. A subset acute myeloid leukemia known as "secondary AML" develops following treatment with chemotherapy.

Some chemo drugs are used to often treat AML

1. Cytarabine [ cytosine arabinoside or ara -C]
2. An anthracycline drug, such as daunorubicin [daunomycin] or idarubicin



### FLOW CYTOMETRY AND CYTOCHEMISTRY

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This method is where dyes, chemicals or tests are applied to leukemia cells in the laboratory. These chemicals and dyes provide information about leukemia and its sub type. The CLL cells have distinctive markers, called cell surface proteins, on the outside of the cell. The pattern of these markers is called the immunophenotype. These tests are used to differentiate CLL from other kinds of leukemia, which can involve lymphocytes. Both tests can be done from a blood sample.

#### GENOMIC AND MOLECULAR TESTING

The doctors may recommend testing the leukemia cells for specific genes, proteins, chromosome changes. Because CLL cells divide very slowly looking at the chromosomes is often less useful than using test to find genetic mutations. Fluorescence in situ hybridization assays and other genetic tests such as PCR are used to find genetic changes.

