

ACUTE LYMPHOBLASTIC LEUKEMIA

Acute Lymphoblastic Leukemia (ALL) is a type of blood cancer in children, characterized by the rapid and uncontrolled growth of immature white blood cells, known as lymphoblasts, in the bone marrow. Normally the bone marrow produces blood stem cells that mature into various kinds of immune cells or white blood cells. With ALL, the bone marrow produces immature lymphoblasts due to genetic mutations. These mutations can occur spontaneously during cell division, be influenced

by environmental factors like radiation or certain chemicals, or, in some cases, be inherited. The immature lymphoblasts develop into leukemic white blood cells from B and T lymphocytes. These abnormal cells crowd out normal blood cells, leading to a reduced production of red blood cells, white blood cells, and platelets. This results in symptoms such as fatigue, weakness, and increased susceptibility to infections. ALL commonly affects the blood, bone marrow, lymph

nodes, liver, spleen, and, in some cases, the central nervous system. Lymph nodes may become enlarged, and infiltration of leukemia cells into the liver and spleen can lead to hepatomegaly and splenomegaly. Most symptoms come on suddenly and can mimic less serious conditions. Prompt diagnosis and treatment, typically involving chemotherapy, immunotherapy or stem cell (bone marrow) transplantation are crucial for managing ALL and improving outcomes.

