

# Development of Leukaemia, Its Effect on the Body and Immunophenotyping Test

*Haematology and Stem Cell Transplant Physician, West Penn Hospital, USA*

Leukemia begins in the developing blood cells within the bone marrow. All blood cells start out as hematopoietic (hemo = blood; poiesis = production) stem cells. The stem cells go through multiple stages of development till they attain their adult form.

First, blood stem cells develop into both myeloid cells and lymphoid cells. If blood cells had been to continue to develop completely normally, the adult forms of these cells are as follows:

Myeloid cells turn into red blood cells, platelets, and certain types of white blood cells (basophils, eosinophils and neutrophils).

Lymphoid cells develop into certain types of white blood cells (lymphocytes and natural killer cells);

So in the bone marrow, blood cells are starting to multiply and divide into red blood cells, white blood cells and platelets. However, when you have leukemia, one of these blood cell types begins to rapidly multiply in an out-of-control manner. These abnormal cells referred to as leukemia cells begin to take over the space in the bone marrow [1]. They crowd out the other normal cell types which can be trying to develop. This is bad in a number of ways:

Unlike other blood cell types, the leukemia cells are abnormal and serve no beneficial purpose.

The different cell types (red blood cells, white blood cells and platelets) have little or no space and aid to continue to grow and multiply in the bone marrow [2].

These consequences result in few blood cells being made and release into the blood and greater leukemia cells being made and released into the blood. Without an adequate quantity of normal blood cells, your body's organs and tissues will no longer get the oxygen they need to work properly. Your body won't be capable of fighting infection or clot blood when needed.

Leukemia cells are usually immature (still developing) white blood cells. In fact, the term leukemia comes from the Greek words for white (leukos) and blood (haima). An excess number of white blood cells are visible when looking at blood through a microscope and the actual appearance of the blood is lighter to the naked eye [3].

## Immunophenotyping (Flow Cytometry)

This test is used to diagnose leukemia and lymphoma in a number of ways of evaluating most cancer cells to normal cells in either a bone marrow or blood sample. Immunophenotyping is carried out with

---

Prerna M, Haematology and Stem Cell Transplant Physician, West Penn Hospital, USA, E-mail: prernam@6gmail.com

03-Jan-2022, Manuscript No: acp-22-51902; 05-Jan-2022, Pre QC No. acp-22-51902(PQ); 19-Jan-2022, QC No. acp-22-51902; 24-Jan-2022, Manuscript No. acp-22-51902(R); 31-Jan-2022, DOI: 10.4172/2472-0429.1000120

Prerna M (2022) Development of Leukaemia, Its Effect on the Body and Immunophenotyping Test. *Adv Cancer Prev* 6: 120.

© 2022 Prerna M. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.