

# Blood Cancer: A curse

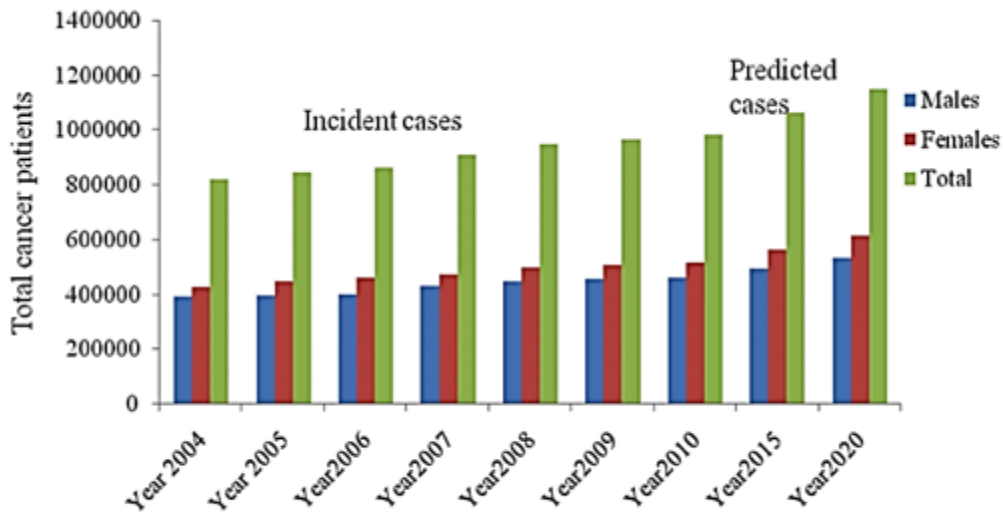
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**Abstract---** *A large variety of different malignancies are caused by blood cancer. This group includes lymph node, lymph tube, tonsil, thymus, spleen and digestive lymph tissue cancer, blood and lymphatic system. The most common types of blood cancer are leukemia, myeloma, starting at the bone marrow, and lymphoma, beginning in the lymphatic system. It is not clear what causes these cancers. With the development of leukemia and myeloma inside the bone marrow, it can hinder the capacity of the bone marrow to produce normal blood cells, including white blood cells, red blood cells and platelets. This can lead to recurrent infections, anemia and quick flushing. Lymphomas, which usually appear as lymph node enlargement, can also prevent the body from fighting infections. Therefore, myelomas create an abnormal protein which causes symptoms in other parts of the body, weakens the bones. The diagnosis of blood cancer has improved significantly, leading to higher remission and survival rates. Remission takes place when no cancer symptom is present. Nearly 1 million people today in the United States experience or have recovered from cancer of the blood. Blood cancer patients may have bleeding problems. Today, cancer is a household word, with at least one close person, a relative or friend, a neighbor or colleague, being diagnosed with cancer, being closely associated with human beings.*

**Keywords---** *malignancies, blood cancer, spleen, lymphatic system, lymphoma, leukemia.*

## I. INTRODUCTION

The development and function of blood cells is impaired by blood cancers. Most of these cancers begin with the blood in the bone marrow. Stem cells grow and evolve into three blood cell forms, red, white and platelet cells. The stem cells of your bone marrow mature. Uncontrolled growth of the abnormal type of blood cell prevents the normal blood cell production in most blood cancers. Such irregular blood cell, or cancer cells, hinder the blood, including combating diseases or stopping severe bleeding, from fulfilling many of its functions. Every day throughout the world, there are numerous new threats to the climate. It takes millions of years to restore air, water and soil pollution. Total cancer patent is displayed in Figure 1. [1]



**Figure 1: Total Cancer Patients in India by the Year**

The global burden of cancer continues to rise largely as the world's population grows aged and grows and carcinogenic conduct is growing in developing economies, particularly smoking. In many developing countries, for addition to the unreasonably high burden of infection-related cancer, female breast, lung and correctional cancers occur at high frequencies. In the U.S. and India, it constitutes respectively 23 and 7 percent deaths. The world's population is projected to be \$7.5 billion by 2020 and estimates predict the diagnosis of approximately 15.0 million new cases of cancer and around 12.0 million deaths from cancer. [2]

In developing countries, the incidence of breast cancer is growing rapidly. It is alarming that in advanced stages, when a cure is not possible, breast cancer is generally detected. Increasing age worldwide, the prevalence of breast cancer is increasing. Nevertheless, in the Indian population, the average age of breast cancer is estimated to be approximately 10 years lower than it is produced.

## II. TYPES OF BLOOD CANCER: LEUKEMIA

The rapid development of irregular white blood cells results in a form of leukemia occurring in your blood and bone marrow. The high number of dysfunctional white blood cells cannot combat diseases and hinder the bone marrow's ability to produce red blood cells and platelets. Acute or chronic leukemia may be. Chronic leukemia is slower than acute leukemia, requiring immediate treatment. Lymphocytic or myelogenous leukemia is also named. Lymphocytic leukemia is a type of white blood cell which plays a role in the immune system, abnormal cell growth in the marbles that become lymphocytes. The abnormal cell formation occurs in the marrow cells which matures into red blood cells, white blood cells, and platelets in myelogenous leukemia. [3], [4]. There are four wide ranges of leukemia:

- Acute lymphocytic leukemia (ALL)
- Acute myelogenous leukemia (AML)
- Chronic lymphocytic leukemia (CLL)

- Chronic myelogenous leukemia (CML)

All adults and children also leukemia. ALL is the most common form and AML is the second most common. Decades of research have resulted in much better results for children with ALL diagnoses. AML and CLL are the two most prevalent adult leukemia's.

### II.I Treatment for Leukemia

A complete blood count (CBC) will be done by your doctor to determine whether you are leukemia. If you have leukemia cells, this test can show. Leukemia can also be indicated by an abnormal white blood cell level or by abnormally low red blood cell counts. The doctor will biopsy the bone marrow to determine the type you have if you check leukemia for leukemia. Therapy depends on your age, health and leukemia. You may undergo a mixture of chemotherapy, cellular therapy, radiation and stem cell transplantation therapies. [5]

Chemotherapy is often used to treat patients with acute leukemia, as these treatment aims are targeted at. Most patients treated acute leukemia successfully. On the other hand, as cells divide more slowly into chronic leukemia, targeted treatments, in contrast to conventional chemotherapy that divide quickly cells, are more effectively treated. Many patients may have access to new treatments by engaging in a clinical trial. Talk to your doctor about whether entering a clinical trial is appropriate for you when you are diagnosed with leukemia. [6]

### III. LYMPHOMA DISEASE

Lymphoma (as displayed in Figure 2) is a form of blood cancer that affects the system, removes excess fluids and eliminates immune cells from your body. A white blood cell type, which combat infection, is lymphocytes. Lymphoma cells that accumulate and grow in your lymph nodes and other tissues become dysfunctional lymphocytes. Such cancer cells have a negative influence on your immune system over time. Each year, approximately half of the blood cancers are lymphoma or lymph system cancer. [7]

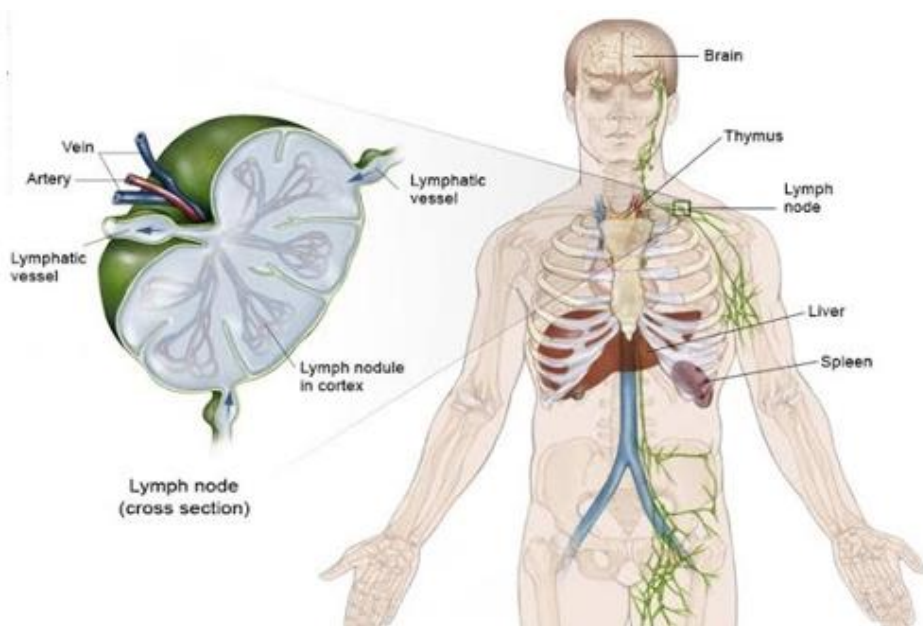


Figure 2: Lymphoma Disease

This system, which consists of your back, your armpits, your thighs, your stomach, and your abdomen, eliminates excess fluid and induces immune cells in your body an abnormal blood cell type, which fights infection, turns into lymphoma cells, which multiplies and collects in your lymph nodes. Such cancer cells have a negative effect on the immune system over time. Hodgkin lymphoma and non-Hodgkin lymphoma are divided into two classes. Lymphomas are divided into three classes. Approximately 12% of lymphoma patients have Hodgkin lymphoma. This once fatal condition was turned into a curable thing through good study. [8]

### **III.I Treatment for Lymphoma**

A lymph node biopsy will be performed by the doctor to diagnose lymphoma. Further testing will then be carried out to assess the lymphoma level, including blood tests, bone marrow biopsies and imaging scans, such as a CT scan or PET scan. The tests show if your lymphoma, such as the spleen and the lungs, has spread to other parts of your corps. The doctor will then decide the options for treatment, taking into consideration the age, overall health, and lymphoma stage and type. One of the most curable cancers is Hodgkin's lymphoma. [9]

The following are recovery options:

- Chemotherapy
- Radiation and chemotherapy applied to the lymphoma directly
- Biological treatments for lymphoma cells, such as antibodies
- Transplant stem cell.

## **IV. MYELOMA DISEASE**

Myeloma is plasma cell cancer. Plasma cells are white blood cells that produce antibodies for disease and infection. Cells of myeloma inhibit normal antibody development and weaken and vulnerable to infections in your body's immune system. Plasma cell cancer is myeloma. Plasma cells are white blood cells that contain anti-corpora in your body that fight disease and infection. Myeloma cell inhibits normal anti-corpora development that weakens and is vulnerable to infections in your body's immune system.

The proliferation of myeloma cells often interferes with normal red and white blood cell development and function. An unexpectedly large number of these abnormal antibodies can cause kidney damage in the bloodstream. In fact, myeloma cells also cause bone damage causing bone pain and/or fractures. In the bone marrow and the soft tissue inside your bones, myeloma cells are formed. Myeloma cells also move through the stream of the blood and collect in your other bones. Because myeloma frequently occurs at many locations in the bone marrow, multiple myeloma is often referred. [10]

### **IV.I Treatment of Myeloma Disease**

There are several treatment options available if you have myeloma that delay myeloma cell growth and lead to alleviation of bone pain, weakness, and other disease symptoms. Your health and myeloma form and stage depend on your treatment type. Myeloma treatment options include:

- Chemotherapy Immunomodulatory (drugs targeted at specific immune system areas).

- Radiation Therapy
- Stem cell transplantation
- Anemia medications
- Medicines to enhance bone health

Some patients have access to experimental therapies through a clinical trial. Talk to your doctor about whether you will follow a research trail when you have myeloma diagnosed. [11]

## V. THE NEED OF BLOOD

It demonstrates the population's overall blood transfusion demand, which is independent of any factors affecting or stopping the population from being transfused into a health care system. Epidemiologically, the need for populations is estimated by estimating the incidence or prevalence of conditions or interventions requiring blood transfusion, the proportions needed for transfusion and the requirement of blood quantum or component. The clinical demand today depends on the health system's efficiency.

Ideally, the blood demands of the population in healthcare institutions should be translated to clinical need. Nevertheless, in low resource conditions it is rarely achieved, which leads to differences in blood demand. A larger proportion of the population need in developing countries, such as India, is thought not to meet due to a few factors: lack of access to medical care due to factors of supply and demand, lack of health services, knowledge / skills of clinicians, public health-seeking behaviors, etc. [10]

## VI. CONCLUSION

Throughout India, and in many other nations around the world, cancer is the second leading cause of death. Around 1/4 people will have it in around way in their lives, and about 1/5 of all deaths are actually due to cancer. While medical technology has advanced considerably, cancer is probably one of the most disruptive and destructive diseases posing a death threat to the world. An additional 20 million new cases will be found by 2020. It is worrying that the percentage of new cases in developing countries such as India is also rising to about 70 percent, not only as a result of the number of new cases. Reading carefully the above debate in that article clearly shows that every year in India there are an increased number of cancer patients. Various cancer genesis factors that must be regulated for eradication were discussed. In the development of the whole world India is a rising country and therefore needs particular attention. They need to raise public awareness of and prevent cancer havoc. Government and NGOs to foster awareness among the Indian public will initiate the various programs.

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