

Final Paper – Leukemia

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ZO-101 Medical Terminology

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The history of Leukemia dates back 200 years. Between 1811 and 1846 multiple medical professions ranging from French anatomist/surgeon, French bacteriologist/doctor and Scottish physician came across many cases that shown symptoms of leukemia. It was not until German physician Rudolf Virchow along with English physician named John Hughes Bennett, independently observed abnormal increases in white blood cells in some patients. Virchow correctly identified the condition as a blood disease and named it leukamie in 1847.

In 1856, Virchow categorized two types of the disease – the splenic and the lymphatic forms which we know now as leukemia and lymphoma. Leukemia is the result of rapid overproduction of abnormal white blood cells It affects close to 45,000 people in the Unites States each year. There are several different types of Leukemia. These types are divided based on whether the leukemia is acute (progressing rapidly) or chronic (slowly progressing) and whether or not it begins in myeloid cells or lymphoid cells. Acute Lymphocytic Leukemia (ALL) starts in the bone marrow where blood cells are made. It is more common in children than in adults. Chronic Lymphocytic Leukemia (CLL) starts from white blood cells in the bone marrow. It mainly affects older adults and accounts for one-third of all leukemias.

Leukemia occurs when abnormal white blood cell sin the bone marrow quickly increase and destroy normal blood cells which leaves a person unprotected from infection. Acute Myeloid

Leukemia (AML) is the most common type in adults. It tends to progress quickly and can affect any component of the blood. In AML, myeloid stem cells usually grow into abnormal white blood cells. As they multiply, they take over normal cells in the bone marrow and blood. It is also possible that the cancer cells can spread to other parts of the body. Symptoms of Leukemia are fever, little energy, weakness, bone or joint pain, frequent infections, unplanned weight loss and swollen lymph nodes in the neck, underarm or groin. It is known that you may not experience noticeable symptoms in the early stages of the cancer.

In order to diagnose Leukemia, you start with a simple blood test called a complete blood count. This test will show abnormal levels of red blood cells, white blood cells or platelets or even the presence of leukemia cells. Once these have been located in your blood, the doctor will then order a bone marrow biopsy. A bone marrow biopsy requires a sample to be taken of bone marrow, typically from the hip area, by a needle. The sample will then be analyzed. Another test would be a spinal tap. A spinal tap is a puncture to the lumbar region to retrieve spinal fluid where it would be tested for leukemia cells.

In order for a person to be in complete remission and possibly be cured, there needs to be no microscopic evidence and their blood cell counts have returned to normal. There are multiple treatments for leukemia. One would be chemotherapy. This consists of powerful drugs that kill rapidly dividing cells like cancer cells. This is administered in two phases. The first phase is the remission induction which is the intense phase of treatment. The next phase of care is the consolidation stage. This phase of chemotherapy is meant to kill any remaining cancer cells that may have survived the first stage of chemotherapy. There is also a maintenance phase in which patients received additional lower doses of chemotherapy over a longer period of time to try to

wipe out the remaining cells. Another form of treatment would be immunotherapy. This treatment pushes the immune system to eliminate cancer.