



## THE BENEFITS OF MICRONUTRIENTS IN CONTROLLING LYMPHOMA



In the previous issue of our Health Science News Page, we learned about a normal lymphatic system. Here we will explore cancer of the lymphatic system - lymphoma. Every three minutes in the United States one person is diagnosed with some type of blood cancer such as that affecting the white blood cells (leukemia), the lymphatic system (lymphoma) and the bone marrow (myeloma).

Lymphomas are cancers affecting the lymphocytes (a specific type of white blood cells) causing enlargement of lymph nodes. These enlarged lymph nodes are generally painless, unless they become painful as a result of infection. Such painless enlargements of the lymph nodes in the neck, armpits, and groin areas are usually one of the initial symptoms of lymphomas and they are associated with weight loss, night fevers, cough, shortness of breath, stomach fatigue and itching.

There are about 816,634 people in the United States who are living with, or who are in remission from, lymphoma. Approximately 80,500 new cases of lymphoma will be diagnosed in 2017. Ninety percent of the lymphoma cases are of the subtype known as non-Hodgkin's Lymphoma (NHL) and 10% are of the Hodgkin's type. Worldwide NHL is the tenth most commonly diagnosed cancer. Other than stem cell transplantation, most of the conventional approaches to treating lymphoma and leukemia have remained the same over the past several years and include chemotherapy, radiation, and immunotherapy. None of these treatments have drastically altered the recurrence of lymphoma or patient survival rates.

After successfully applying a micronutrient mixture in different types of cancers, our scientists tested the effects of

a micronutrient combination which included vitamin C, lysine, proline, and green tea extract, in two of the most aggressive NHL cell lines - Burkitt's lymphoma and T-cell lymphoma.<sup>1</sup> It is well known that the matrix metalloproteinases (MMP) enzymes are the key components in promoting the growth and spread of any type of cancer. However, the exact role of MMP in lymphomas was recognized very recently when increased MMP secretion was reported with highly aggressive NHLs. Our micronutrient combination was successful in stopping the secretion of MMP enzymes in both of the NHL cancer cell types we used, and it also blocked the invading capacity of the cells (100% inhibition). Reduction in the MMP enzymes curbs the potential to metastasize. The micronutrient combination was also effective in inducing selective death of the cancer cells (apoptosis) without harming the normal cells. In another study<sup>2</sup> our research proved that the micronutrients were capable of causing significant reduction in the inflammatory markers (COX-2), thereby reducing the blood supply to the tumor (angiogenesis), and decreasing tumor growth.

Although the five-year survival rate for lymphoma cases has increased in the past few years, the cancer patients develop a deficiency of multiple nutrients due to the disease and the severe side effects of the treatment. Given our research results, micronutrient supplementation could significantly improve the health for thousands of lymphoma patients.

1. Roomi MW et. al., *Exp Oncol.* 2009 Sep; 31 (3): 149-155
2. Roomi MW et. al., *Exp Oncol.* 2013 Sep; 35(3):180-186.

This information is provided to you by the Dr. Rath Research Institute a leader in the breakthrough of natural health research in the field of cancer, cardiovascular disease and other common diseases. The Institute is a 100% subsidiary of the non-profit Dr. Rath Foundation.

The ground-breaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease". It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health. Says he: "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."

This information is based on scientific research results. It is not intended to substitute for medical advice to treat, cure, or prevent any disease.  
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