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Coping with Cancer Related Fatigue

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The following is taken from an invited platform presentation entitled "Lipid Replacement Therapy: a Nutraceutical Approach for Reducing Cancer-Associated Fatigue and the Adverse Effects of Cancer Therapy" presented at the 2nd International Symposium on Cancer Fatigue held on October 3-4, 2010 in Montreal, Canada

Fatigue, along with pain and nausea, is one of the most common and severe symptoms of cancer. The rate of fatigue associated with cancer is as high as 95%. Most patients understand their fatigue as a loss of energy along with the inability to perform basic tasks without feeling exerted. However, it is not only a problem while you suffer from cancer, but also a problem before, during, and after treatment. In fact, it can continue years after your therapy is done.

It is now recognized that an important aspect in the treatment of cancer, and the administration of treatments, is the reduction of fatigue.

A variety of contributing factors is thought to relate to the cause of cancer-associated fatigue (CAF). CAF isn't an isolated symptom, rather it occurs among multiple symptoms and is correlated to a person's decreased ability to function. Fatigue is so disabling and difficult that it is often the main reason a person will choose to discontinue therapy, so controlling fatigue is an important aspect of maintaining patients on life-saving therapies.

Cancer-associated fatigue is often confused with depression. Both depression and fatigue have multidimensional qualities, such as physical, cognitive and emotional dimensions, and there is a certain degree of overlap across these dimensions. Since fatigue or loss of energy is a core aspect of diagnosing depression, both fatigue and depression are often found in cancer patients. However, cancer-associated fatigue can be distinguished from depression and analyzed by itself. Cancer-associated fatigue can also be related, in part, to anxiety, sleep disturbances, anemia, poor nutrition and release of inflammatory molecules, but the main cause of cancer-associated fatigue can be attributed to a decrease in the availability of cellular energy necessary for daily activities.

In each of our cells, energy is produced in the form of high-energy molecules in our mitochondria, small two-membrane separated organelles responsible for energy production. When our mitochondria are damaged, due to aging, disease and even pharmaceutical treatments, they do not produce enough high-energy molecules to keep cells functioning properly. The most common way in which mitochondria are impaired is by oxidative damage to mitochondrial membranes by cellular free-radicals called Reactive Oxidative Species or ROS. Excess ROS oxidize mitochondrial membrane lipids, making the mitochondrial membranes less capable of insulating the energy-producing part of the mitochondria, resulting in lowered production of high-energy molecules needed by the cell.

Until recently practically the only treatments for cancer-associated fatigue were the use of pharmaceuticals that treated depression, sleep disturbances or by correcting general nutrition. Now there is another all-natural way to more directly treat cancer-associated fatigue using Lipid Replacement Therapy with NT Factor [1]. NT Factor provides cells with the specific types of

membrane lipids that can repair mitochondria and make them functional again. The uniqueness of NT Factor over other lipid supplements is that NTFactor's lipids are required by mitochondria for their function, and NT Factor lipids are protected from damage by ROS and other factors that damage most lipids before they even reach our cells.

In my recent article published in Cancer & Metastasis Reviews [2], I discussed the recent clinical trials that show the effectiveness of Lipid Replacement Therapy with NT Factor plus antioxidants and CoQ10 in the treatment of various clinical disorders that show mitochondrial dysfunction as well as cancer. In these illnesses a common feature is loss of mitochondrial production of high-energy molecules due to damage to mitochondrial membranes, and NT Factor was effective in repairing mitochondrial membranes and recovering function.

Lipid Replacement Therapy with NT Factor and CoQ10 has been used to reduce cancer-associated fatigue and also to reduce the side effects of cancer therapy, including severe fatigue, but also nausea, diarrhea, constipation, appetite, impaired taste and other quality of life indicators [2].

Thus NT Factor is an important adjunct to cancer therapy and an effective method to reduce cancer-associated fatigue.

References:

1. Nicolson, G.L. Lipid Replacement/Antioxidant Therapy as an adjunct supplement to reduce the adverse effects of cancer therapy and restore mitochondrial function. Pathology & Oncology Research 11: 139-144 (2005).
2. Nicolson, G.L. Lipid replacement therapy: a nutraceutical approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy while restoring mitochondrial function. Cancer & Metastasis Reviews 29(3): 543-552 (2010).

About the Author:

Professor Garth L. Nicolson is the President, Chief Scientific Officer and Research Professor at the Institute for Molecular Medicine in Huntington Beach, California. Professor Nicolson has published over 600 medical and scientific papers, edited 16 books, and served on the Editorial Boards of 30 medical and scientific journals. Professor Nicolson has won many awards, such as the Burroughs Wellcome Medal of the Royal Society of Medicine (United Kingdom), Stephen Paget Award of the Metastasis Research Society, the U. S. National Cancer Institute Outstanding Investigator Award, and the Innovative Medicine Award of Canada. He is also a Colonel (Honorary) of the U. S. Army Special Forces and a U. S. Navy SEAL (Honorary) for his work on Armed Forces and veterans' illnesses.

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