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Chronic Fatigue Syndrome -- Part II

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Last month we reviewed diagnostic criteria of chronic fatigue syndrome (CFS), along with dietary and detoxification considerations. This month our focus will be on the micronutrients that should be considered for the treatment of CFS.

1. Immune system stimulation

Stimulating the immune system can be done with a variety of products such as vitamin A, vitamin C, bioflavonoids, vitamin E, beta carotene, vitamin B6, zinc, copper, manganese, arginine, Echinacea, and thymus, just to name a few. There are many fine immune formulas available to the chiropractic doctor. I refer you to your representatives for these products and the literature to support them -- there is a lot of it. By choosing immune combination products first, you will have a much better chance for compliance. Remember, because of close FDA regulations, label instructions may not be adequate to achieve the desired biochemical changes. Generally, the scientists who work for your supplement companies will be able to instruct you on safe, realistic dosing.

2. Mitochondrial support

CFS patients have mitochondrial dysfunction in the form of (1) increased oxidant exposure and damage; (2) decreased oxidative phosphorylation; and (3) membrane permeability changes. The mitochondria is the main user of oxygen in the cell and generates reactive by-products during the production of ATP. Because of its compromised condition in CFS, the requirements for antioxidants are increased both to quench the by-products being produced and to fight the effects of the spreading oxidative damage originally initiated by the causative factors. In addition to the many antioxidants mentioned in #4 for immune function, glutathione and coenzyme Q10 should also be considered. Adequate amounts of the full B complex will help normalize mitochondrial metabolism.¹ Normalizing and/or restoring normal mitochondrial membrane function and permeability can be helped with the addition of omega-3 fatty acid supplementation.²

3. Minerals such as chromium, magnesium, and potassium magnesium aspartate.

Chromium is obviously for those CFS patients who also are displaying symptoms of blood sugar abnormalities. Many CFS patients also seem to have decreased intracellular magnesium levels, and magnesium supplementation can often help. However in patients with severely low magnesium levels, you may need to refer them to a medical doctor who practices nutritional medicine to give magnesium intravenously. Aspartic acid is a carrier molecule that helps deliver potassium and magnesium into the cell. It is also a substrate in the Krebs cycle. Of all the supplements that are touted to decrease fatigue, potassium and magnesium aspartates probably have more positive scientific studies behind them than anything else on the market.³

4. Branch chain amino acids may help CFS patients.

If the tryptophan to BCAA ratio is too high, neurotransmitters made from tryptophan increase, causing physical and mental fatigue.⁴ When patients first contract CF, the body activates a metabolic pathway that increases the rate of conversion of ATP to cyclic AMP, which is used for immune system stimulation. It seems that CF patients have difficulty turning this pathway off when it is no longer required. The inability to properly regulate this pathway leads to losses of ATP in times of inadequate production. Branch chain amino acids can down-regulate this ATP to cyclic AMP process.⁵

5. Deficiencies of certain B vitamins, such as folic acid, pantothenic acid, and vitamin B12 have also been the causes and the cures of fatigue, and thus when treating CFS patients, the status of these nutrients should be looked at closely.³

6. The monoester of the fatty acid lauric acid has been shown to have significant antiviral properties.

This is especially important for patients who come in with the symptoms of CF, but who have not waited six months to seek care. Thus, it is likely that the virus is still active in their body and a lauric acid monoester should be considered.⁶

Tough Cases

In cases with inadequate results, make sure your patient is fully complying with the treatment plan. Changing diets, taking supplements, and eliminating bad habits is not easy for a healthy person to accomplish, let alone a sick one. But difficult conditions often have difficult treatment plans.

If your patient has complied, find out if you are the first doctor to treat this condition. If you are, consider a second opinion if you have had no improvement in the symptom complex after eight weeks or if symptoms have been deteriorating after four weeks. If the patient has already been treated by numerous professionals for CFS, and the above scenario of no change in eight weeks or symptom exacerbation after four weeks occurs, re-review all prior records to insure you do in fact have a CFS patient. Next, change all brands of supplements that contain herbs, amino acids, or glandular products. Raw materials, manufacturing, packaging, shipping, and storing are just a few of the many variables that can affect product potency. Substitute multiple vitamin and mineral formulas with individual nutrients or groups of nutrients such as B-complex, macro and microminerals, and antioxidant formulas. Give all accessory nutrients individually. Your professional representatives can help you with this. Needless to say, changing brands and individualizing supplements requires greater patient compliance. However, it is sometimes a necessary step for patients who have fallen through the cracks to get to your office and have continued to tumble through your first line of treatment.

Conclusion

Chronic fatigue syndrome is a complex problem manifesting biochemical individuality in those who suffer from it. It is this author's opinion that a complementary approach including optimal diet, micronutrient support, stress control, and support from family and friends are all necessary components of a successful treatment program.⁷ Manipulation, modalities, and soft tissue therapy should be utilized as symptoms dictate, taking care not to overtreat. Prescription medication should be reserved for short-term symptom control in acute situations. To round out the optimal treatment team, the inclusion of an MD familiar with or open to nutritional medicine, along with psychological support and professional management (preferably RPT) of an individualized exercise program should be included.

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