

Nutritional Support for Multiple Sclerosis (MS)

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Multiple sclerosis is a progressive, degenerative disorder of the central nervous system, including the brain, the optic nerve, and the spinal cord. This disease affects various parts of the nervous system by destroying the myelin sheaths that cover the nerves and leaving scar tissue called plaques, ultimately resulting in destruction of the nerves. This process is known as sclerosis.

Multiple sclerosis is not hereditary but is considered familial. First generation relatives of multiple sclerosis individuals have a thirty to fifty times greater risk of developing the disease than the general population. It occurs more often in women than men (60% versus 40%), usually starting in young adulthood with the average age of 33. MS is very rare in Eskimos, Japanese and African-Americans.

Symptoms at onset vary. Spontaneous unpredictable relapses/remissions occur at irregular intervals and as the disease progresses complete remission becomes less likely. New neurological problems add to the older ones, producing a cumulative effect. Weakness of an arm or leg on the same side or both legs is prevalent, as is extension of the arms and flexion of the legs. Tone is increased in the weak limb while deep tendon reflexes are hyperactive. Spasticity is prominent as weakness and abdominal reflexes are lost. Generalized fatigue and reduced exercise endurance may follow. Numbness and paresthesia, (vague nagging, prickly sensations in one or more limbs that produce burning pain), and rare occurrence of trigeminal neuralgia are other reported problems. Examination will confirm loss of vibration sensation, but the sensory examination remains normal despite sensory complaints. Visual complaints range from monocular visual loss to blurred to double vision. Blurred and double visions indicate plaques (breakdown of the myelin sheath) in the brain stem's vestibular-ocular connections. An individual's ability to control his/her lateral gaze (inability to pull toward median axis) is compromised. Coordination of limbs and clumsiness when walking and inability to attempt fine motor skills cause many to initially seek out help. Urinary urgency and incontinence are seen in established cases. Increased temperatures and stressful situations exacerbate multiple sclerosis. The increased temperature also impairs central nerve conduction in neurons. Individuals usually have a history of varying, fluctuating and multiple neurological symptoms. Examination will typically disclose additional symptoms beyond what a patient describes.

One of the most widely accepted theories of the cause of multiple sclerosis is that it is an autoimmune disease. A slow viral infection, primarily post-infectious

encephalomyelitis, may lead to the demyelination that begins 10-40 days after an acute viral infection. Measles and human papovavirus can also be causes for breakdown of the myelin sheath surrounding nerves. Data does not support common infectious agents as antigens for increased antibody activity. Sensitivity to a single protein cannot be demonstrated; attempts to find an antigen etiology applying only to multiple sclerosis patients have failed, however a variety of immune system abnormalities reported in MS patients would seem to support an auto-immune etiology.

Studies indicate a strong association between diets rich in animal and dairy products and increased incidence of MS. Multiple sclerosis individuals may have a problem with essential fatty acids absorption. High consumption of saturated fats increases the requirement for omega 3 essential fatty acids, in effect creating a deficiency. A study at the University of Toronto found that MS patients were more likely to consume diets high in saturated fats from meats. People who ate lots of fruit juice, grains and fish were at lower risk while those who ate pork, hot dogs, sweets and candy appeared to be at higher risk for multiple sclerosis. Mercury from dental amalgams may indicate that the mercury has been released into the bloodstream and the cell structure will initiate an autoimmune reaction, destroying the myelin sheath in the process.

The Blood-Brain Barrier and MS

Both conventional and complementary therapies for MS have focused almost exclusively on immune response. However this theory leaves some unanswered questions regarding several observations concerning the disease:

- What accounts for the occurrence of localized areas of demyelination as opposed to a universal attack throughout the central nervous system?
- How can we explain periods of remission?
- How do lymphocytes and auto-antibodies, which normally do not have access to the central nervous system (CNS) gain entry?

An interesting hypothesis to answer these questions is that a dysfunction of the blood-brain barrier (BBB) contributes to MS. The primary function of the BBB is to protect the brain from water-soluble toxins. This barrier occurs as a result of tightly woven endothelia at the brain and spinal cord, which restricts the free passage of nutrients, hormones, drugs, toxins, and immune components to the central nervous system. Under certain conditions the BBB fails to function properly, and allows entrance of unwanted immunological agents such as lymphocytes and auto-antibodies into the CNS.

While the specifics about how the BBB is implicated in MS is not known, there are a number of factors known to break down the blood-brain barrier, many of which can be addressed by specific nutrient supplementation providing new approaches in treatment and management of MS. Of interest is the information that some factors that weaken the BBB are also known to be common in MS patients; for example heavy metal toxicity such as mercury from dental amalgams is commonly seen in MS patients. MS patients have a seven times higher level of mercury in the cerebrospinal fluid when compared to other individuals. Other factors that weaken the BBB are: trauma, such as a head injury; alcohol consumption; viral infection; deficiency of nutrients essential to capillary strength; oxidative damage; elevated homocysteine; and high levels of inflammation.

There is no specific test for multiple sclerosis, but the work-up should include the following:

- Cerebrospinal fluid immunoelectrophoresis analysis
- Computer tomography (CT) brain scan
- Multi-modality sensory evoked potentials
- Magnetic resonance imaging (MRI) in place of the CT when available

Specific therapies shorten the duration of a relapse as opposed to altering the prognosis. Physical therapy that includes passive movement and massage for weakened spastic limbs provides a comfort as well as improves circulation. Stretching helps to prevent muscle contractions and slows the progressive degenerative disorder of the central nervous system, including the brain, optic nerve and spinal cord. According to Dr. James F. Balch and Phyllis Balch, in their book entitled *Prescription for Nutritional Healing*, complete bed rest for two days during a flare-up will stop a mild attack of symptoms. Proper nutrition, regular exercise, sleep, normal blood pressure and weight should also be taken into consideration. Refrain from cigarettes and alcohol. Food allergies may speed the development and progression of multiple sclerosis. Some allergies are not discovered until there has been irreversible nerve damage. Eliminating the offending foods will slow down the progression and avoid further damage. There is also a possible link between MS and candida infection. Treatment to reduce candida activity also decreases the fatigue experienced by most MS sufferers. An alternative therapy called apitherapy deals with honeybee venom. It acts as an anti-inflammatory and immune system stimulant serving to relieve fatigue, cramping and weakness. Hyperbaric oxygen treatment helps in minimal to mild symptoms of multiple sclerosis in about half of the individuals who participated in a double-blind study. Results were largely anecdotal, but individuals stated there was improvement in bowel and bladder functions.

SUGGESTED NUTRITIONAL SUPPORT

Brain Link – according to weight and label instructions replenishes neurotransmitter levels

Coenzyme Q10 – 100 mg. daily increase oxygenation throughout the body and increases energy level.

Alpha Lipoic acid – 600 mg. daily to increase muscle energy and enhances vitamin utilization

Ginkgo Biloba – 240 mg daily for its strong antioxidant and anti-inflammatory properties. Do not use if using blood thinners or anti-inflammatory medications or if pregnant/lactating. Diabetics use with doctor's supervision.

Candex – to control candida (yeast). Follow label instructions.

Fortified Flax – 2 teaspoons daily in fruit juice

ProDHA – an omega-3 essential fatty acid, – 2 soft gels twice daily.

Phosphatidylserine (PS) – Reduces tumor necrosis factor (TNF). High levels of TNF are found in the cerebrospinal fluid of MS patients with progressive disease (but none in patients with stable disease). – 300 mg daily in divided doses.

Rodex B6 – 150 mg. daily metabolizes amino acids allowing amino acids to work more efficiently in the body.

Glycine – 500 mg. twice daily aids in muscle recovery

Thiamin is known to strengthen the blood-brain barrier – 100 mg. daily during a relapse, 20 mg daily for maintenance.

CalMagZinc – 4 capsules nightly for muscle tension and spasm.

Super Digestaway and Pancreatin – 1 with each meal

Selenium Picolinate – 200 mcg. daily.

Vitamin C – 3,000-5,000 mg. daily.

Manganese – 15 mg. daily.

Taurine – 3,000-4,000 mg. daily quiets the central nervous system

MSM 750 – 1 four times daily for 30 days, decreasing to 1 three times daily after that.

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