

Glutathione and Parkinson's Disease

by Priya Shah

Parkinson's Disease (PD), a devastating illness, occurs in one of every 100 people over 65. It is a slowly progressing disease of the nervous system that results in progressive destruction of brain cells (neurons) in an area of the brain called the substantia nigra. Death occurs usually as a result of secondary complications such as infection. One of the mechanisms known to destroy neurons is damage by free radicals or reactive oxygen species - destructive molecules produced by oxidation of the neurotransmitter dopamine.

The Role of Dopamine

The cells of the substantia nigra use dopamine - a chemical messenger between brain or nerve cells - to communicate with cells in another region of the brain called the striatum. When nigral cells are lost, nigral dopamine levels fall, resulting in a decrease in striatal dopamine. The typical symptoms of PD - motor function deficiencies characterized by muscle rigidity, jerky movements, rhythmic resting tremors - are the result of low levels of striatal dopamine. Most dopaminergic drugs used to treat PD, are aimed at temporarily replenishing or mimicking dopamine. They improve some symptoms, but do not restore normal brain function nor halt brain cell destruction. Dopaminergic drugs are generally effective at first in reducing many PD symptoms, but over time they lose their effect. They also cause severe side effects because they overstimulate nerve cells elsewhere in the body and cause confusion, hallucinations, nausea and fluctuations in the movement of limbs.

The Role of Antioxidants

When dopaminergic neurons are lost in the course of Parkinson's disease, the metabolism of dopamine is increased - which in turn increases the formation of highly neurotoxic hydroxyl radicals. The most important free radical scavenger in the cells of the substantia nigra is the powerful brain antioxidant, glutathione. Glutathione levels in PD patients are low. And as we age, levels of glutathione in the dopaminergic neurons of the substantia nigra decreases. This appears to hasten cell death and advance the progression of PD. At least 80 percent of the substantia nigra cells are lost before symptoms of Parkinson's disease become apparent. This is why it becomes essential to protect or maintain these cells under oxidative stress.

How does Glutathione help in Parkinson's Disease?

Several factors explain why glutathione is so beneficial in Parkinson's disease.

1. Glutathione increases the sensitivity of the brain to dopamine. So although glutathione doesn't raise dopamine levels, it allows the dopamine in the brain to be more effective.
2. Glutathione's powerful antioxidant activity protects the brain from free radical damage.
3. An even more intriguing benefit of glutathione lies in its powerful detoxification ability.

It's a well known fact that most Parkinson's patients are deficient in their ability to detoxify chemicals to which they are exposed. The unfortunate few who harbor an inherited flaw in their detoxification pathways are at far greater risk to the brain damaging effects of a wide variety of toxins. Glutathione is one of the most important components of the liver's detoxification system. Glutathione therapy is one of the most effective techniques for enhancing liver and brain detoxification. Glutathione treatments considerably improve some of the symptoms of Parkinson's disease including difficulties with rigidity, walking,

movement, coordination and speech. A marked reduction of tremor has been observed as well as a decrease in depression. Glutathione and N-acetyl-L-cysteine (a glutathione precursor) have been shown to be very effective in protecting the nerves in the substantia nigra from being destroyed by oxidative stress.

Glutathione Therapy in Parkinson's Disease

The practical problem in increasing glutathione levels is that taking glutathione itself as a supplement does not boost cellular glutathione levels, since glutathione breaks down in the digestive tract before it reaches the cells. However, intravenous glutathione therapy and taking glutathione precursors are both effective in boosting intracellular levels of glutathione.

Intravenous Glutathione Therapy:

Intravenous glutathione injections have been shown to have amazing and quick results. Dr. David Perlmutter, a pioneer in this therapy, has developed a protocol utilized at the Perlmutter Health Center for administering intravenous glutathione to Parkinson's patients. Following even a single dosage of intravenous glutathione - often in as little as 15 minutes - the ability to walk, turn around and move their arms is almost completely restored.

Glutathione Precursors:

Dietary antioxidants and supplements that increase cellular glutathione, such as alpha lipoic acid, NAC, pycnogenol, the herb silymarin (milk thistle), are effective in restoring normal function. N-acetyl-cysteine (NAC) and un-denatured, whey protein both supply glutathione precursors intracellularly, enhance the body's production of glutathione and aid the detoxification process. Other nutritional supplements which aid the detoxification process include selenium, vitamins E and C.

For a detailed report with references on Parkinson's Disease and Glutathione visit:
http://www.1whey2health.com/parkinsons_glutathione.htm

About the Author

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