THE TUESDAY MINUTE

THIS WEEK'S TOPIC

Anti-Aging Your Brain

" Glutathione protects the life of the brain; and if there is not enough, the aging process will hit the brain faster and harder."

If there was one enzyme that increases or protects life the most, especially the life of your brain, it would have to be glutathione. Doctors have called it the most important molecule to stay healthy and prevent disease. I have heard speakers refer to it as the "holy grail of antioxidants." All cells contain glutathione. The brain is especially dependent upon glutathione due to its ability to reduce excitotoxicity and mercury poisoning.

As I've mentioned before, a leaky gut probably means a leaky blood brain barrier. The brain has internal protection mechanisms and glutathione is the most important one. It offers powerful protection against the destruction caused by free radical attack on delicate brain cells. If your brain is being devoured by free radicals, you will not be able to think clearly, stay focused, or retrieve information when you need it. In other words, "If you don't have enough glutathione, the aging process will hit your brain faster and harder."

Recent findings have shown that DNA repair enzymes can vary as much as 180-300 times among individuals. DNA repair systems are damaged by free radicals and toxic metals. Mitochondrial DNA possess fewer repair enzymes as opposed to nuclear DNA. This means that when glutathione is low the mitochondrial DNA repair is compromised. If DNA repair systems are damaged the chances for cancer and various neurological diseases like Alzheimer's increase. It all becomes a vicious cycle. We need energy to repair DNA and we need healthy mitochondria for energy. Glutathione is one of the antioxidant enzymes that protect mitochondrial DNA.

Dr Russell Blaylock comments in his book, "Health and Nutrition", "studies have shown that it is possible to predict the risk of degenerative diseases, even cancer, by the body's supply of glutathione."

Because the brain is the site of the greatest free radical risk in the body, the presence of sufficient glutathione is critical. HIV infection, lowered immunity in general, liver cir-

rhosis, hepatitis, pulmonary disease, Crohn's and GI inflammation, diabetes and aging are just a few of the conditions that are associated with lower glutathione levels.

What reduces glutathione? Not surprising that as we age, levels of glutathione decline. Next, "anything" that increases free radicals. Our bodies were designed to tolerate free radicals, they are part of normal metabolism; however, when we ingest or create more free radicals than we can neutralize, oxidation occurs. Also, high levels of MSG and excitotoxins dramatically lower glutathione levels. Other factors that directly or indirectly deplete glutathione are chronic inflammation, mineral deficiencies, poor digestion, trauma, viral infections, heavy metals, radiation and medications.

The liver is the largest glutathione reserve so anything that reduces or impedes liver function will reduce glutathione. Speaking of the liver, all drugs need to be detoxified. The main organ used to detoxify them is the liver. If glutathione is not available, the body begins to function sub-optimally. But if the liver is depleted then the brain is also glutathione starved and that's where the real trouble can begin neurologically.

Acetaminophen is very damaging to the liver. According to neurologist Dr. David Purlmutter, anyone taking acetaminophen on a regular basis or any of its generic cousins should embark on a glutathione enhancing program.

Let's consider ways to increase glutathione. First, we have to make sure we are ingesting enough antioxidants and minerals to balance our lifestyles. If we are low in vitamins C and E, our glutathione stores will be tapped and eventually depleted. If we are low in magnesium, we will be low in glutathione. If we are low in selenium, we can't recycle glutathione back into its reduced, usable form. So a high potency multiple vitamin mineral like ProMulti-Plus is essential.

Just as important is to build our reserve of antioxidants by increasing colorful vegetables and fruits rich in flavonoids and minerals. Protecting our antioxidants reserves protects our glutathione supply and in effect helps protect our brain.

Glutathione is a tri-peptide consisting of the amino acids cysteine, glycine and glutamine. Anything that will reduce one or all of these three will result in lower levels of glutathione.

The rate limiting amino acid is the sulfur amino acid cysteine. Oral glutathione can be broken down, in the GI tract. Most researchers agree that providing the precursors is the preferred way of supplementation. Severe cases may need IVs. Measuring glutathione in erythrocytes is a sensitive indicator of intracellular glutathione status and may be used for chronic unresponsive patients or those in the early stages of neurologic diseases. But generally, glutathione can be increased by assuring we have ample levels of magnesium, vitamin C, lipoic acid, NAC and a high intake of vegetables, particularly the cruciferous vegetables.

See the link below for a Tuesday Minute on lipoic acid.

Interestingly, Dr. Blaylock states that the brains of Alzheimer's patients are severely deficient in these same nutrients. Also, I have provided a list below of the cruciferous veggies and a summary of nutrients and their dosages.

Life is precious and if we can find ways to communicate to our patients how they can protect that life through the use of simple supplements and dietary changes, they will appreciate it and hopefully embrace it.

Thanks for reading this week’s edition. I'll see you next Tuesday.