

Serotonin Deficiency & Neurotransmitter Health

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I'll never forget sitting in a seminar about serotonin. The speaker was emphasizing all the lifestyle factors that reduce serotonin, things like stress, caffeine, sugar, chocolate, alcohol and nicotine. A doctor friend of mine sitting next to me turns and quietly admits, "I do all those things." I'm sure you have heard of medical student syndrome, where you think that you have all the symptoms of what you're studying. Well, today you will probably see yourself as we go down the list of symptoms. I know I did. But as we focus on serotonin and relate it to neurotransmitters, keep in mind we are really talking about brain and nervous system health.

In this fast moving high tech age, we need a healthy brain. I have a mini-checklist that we can use with our patients to evaluate if neurotransmitter deficiencies might exist; but first, let's define what neurotransmitters do and some of the complications that are involved in evaluating them.



Neurotransmitters are involved in both the peripheral nervous system and the brain. Neurotransmitters are chemicals used as a messenger from one nerve cell to another. They are used to relay, amplify and modulate signals between a neuron and another cell. The blood brain barrier prevents large polypeptides from entering and leaving the brain as opposed to smaller amino acids which can pass through and affect brain chemistry.

"Can we measure neurotransmitters in the brain?" Neuro-

transmitters are large molecules. Unless the blood brain membrane is compromised, in my opinion, it seems difficult for these critical neurotransmitters to pass through. Keep in mind, 90 - 95% of the serotonin is made and used in the gut, often called the "second brain." So with blood or urine evaluations, are we really measuring brain levels of neurotransmitters? Does it matter? If someone is low in peripheral nervous system serotonin, chances are very high that they would be low in brain levels as well. If we are low in brain serotonin,

the body will find a way to increase levels in the most efficient manner if we provide the basic building blocks.

If someone exhibits the symptoms on a regular basis, fix their diet, fix their digestion, then we can supplement appropriately.

So what are the symptoms of serotonin deficiency? Loss of pleasure in hobbies or interests, feelings of inner rage, feeling overwhelmed with ideas to manage, experiencing depression, lacking artistic appreciation, feeling paranoid more than usual, having lost the enjoyment to life, feeling depressed when it is cloudy or sunshine is diminished, having less enthusiasm for life in general but especially your favorite activities, inability to fall in a deep restful sleep, feelings of unprovoked anger, not enjoying your favorite foods, not enjoying your friendships or relationships, feelings of dependency on others, and feeling more susceptible to pain.

You can see why some writers have called serotonin the "happy hormone." If you're low in serotonin, you won't be happy.

Traditional medicines "burn out" the existing serotonin with SSRIs, keeping it in the synaptic cleft, which can be dangerous when storehouses are exhausted.

As a side note, most of the crazy killing sprees like Columbine or the Northern Illinois University shooting involved people with a history of taking SSRIs. Violent behavior resulted when they stopped taking them. Exhausting the storehouses is probably not a good idea.

To increase neurotransmitters we want to make sure the precursors are available for the body to make them. Magnesium, zinc, B12 and folic acid are common nutrients

needed to make sure amino acids can be converted into neurotransmitters or into whatever the body deems critical. So, we want to make sure we are using a high quality multivitamin/mineral.

I personally take ProMulti-Plus by Biotics Research, two, three times a day when under stress; and one, three times a day for normal high intensity living.

As usual, we have to make sure we have a healthy digestive system and be aggressive in anti-stress activities. Real food, real down time periods and then supplementation will make a huge difference.

I use Neuro-5-HTP Plus, two, three times a day which contains B6, B3 and L-5-Hydroxy-Tryptophan, the major co-factors necessary to make serotonin. It also contains 50 mg of theanine, another amino acid used in stress reduction. Two, three times a day, of Neuro-5-HTP Plus is a loading dose. Take the final two at bedtime. As symptoms abate, reduce to comfort.

Obviously, we have just scratched the surface when considering neurotransmitters, brain and nervous system health. On the link below I have a list of other symptoms for dopamine, GABA and acetylcholine. It's a great checklist to help you "tune into" your patients' brain chemistry.

With stress being so rampant in people's lives, addressing symptoms naturally is becoming a welcome alternative without dangerous side effects. You'll be surprised how many patients will respond positively.

Thanks for reading this week's edition. See you next Tuesday.