

This patient followed up with me approximately seven weeks later and reported his anxiety improved with some “good days” that did not require any Xanax, improved daytime energy that was “on and off day by day,” and still present but improved overall physical pain. He also reported his efforts to lose weight were beginning to pay off. Of additional clinical interest, is that these symptomatic improvements happened at the same time as an additional three rounds of antibiotics that were prescribed for possible cellulitis.

I modified his supplement routine and added GABA support (Kavinace-maximum 6 per day) as needed to support anxious symptoms and further support healthy sleep patterns. I also recommended catecholamine support for daytime energy (ExcitaPlus 1 capsule BID prior to breakfast and lunch to be taken with his Adreacor). I moved cautiously on his excitatory support due to his history of anxiety.

During a telephone follow-up three weeks later, he reported continued improved anxiety levels with no need for medication in over a week and improved sleep patterns, but he had experienced increased daytime fatigue following an additional sinus polyp surgery six days prior to the conversation. Follow up testing was recommended in the near future and he was pleased with his progress to date, as am I. This was a very positive clinical response considering his additional medical complications.

Summary

Imagine how exciting it will be when you can objectively determine which parts of the neurotransmitter

puzzle need to be addressed specifically for your patient. Having observed the positive outcomes in my patients utilizing the testing that is currently available, I have become extremely enthused about the future of neurotransmitter optimization. I look forward to the day when we have clinical tests to objectively assess neurotransmitter binding and uptake, enzymatic degradation and receptor sensitivity therapies. In the interim, I advocate the use of urinary neurotransmitter testing and amino acid supplementation to optimize pre-synaptic neurotransmitter stores.

Lastly, recognize that the future of neurotransmitter testing and optimization will do much more than just objectively measure levels of neurotransmitters in the urine. Incorporation of the immune and endocrine systems is essential to understanding how to best support the entire system. Thyroid hormones, adrenal cortisol, immune cytokines & antibodies, food sensitivities, and environmental toxins are just some of the many components that will intersect with neurotransmitter testing for clinical application and improved patient outcomes. Neuroendocrinology is in its infancy but the future is very bright.

With the combination of objective testing and subjective findings, a more accurate and complete picture of your patient’s current condition can be constructed and allow for improved clinical applications. In the end, every practitioner must decide their own personal clinical strategies. Urinary neurotransmitter testing and amino acid supplementation, coupled with a detailed patient history and physical examination, have been essential to my ability to help my patients achieve optimal function. ♦

<u>Test Parameter</u>	<u>Result</u>	<u>Optimal Range</u>
Estradiol	2.1	0.8-1.5
Estrone	2.3	1.0-2.5
Progesterone	0.032	0.070-0.150
Testosterone	60.1	75-95
Dihydrotestosterone	19.1	20-40
DHEA	84.5	250-450
Cortisol AM	2.2	7.0-10
Cortisol Middy	3.6	3-6
Cortisol Afternoon	6.9	2-4
Cortisol PM	1.3	<1.5
Epinephrine	8.5	8-11 daytime
Norepinephrine	36.5	35-45 daytime
Dopamine	76.4	125-175 daytime
Serotonin	60.5	125-175 daytime
GABA	3.9	1.5-4.0 daytime
Glutamate	38.1	15-35 daytime
PEA	108.6	30-70 daytime
Histamine	19.5	10-20 daytime