Neurotransmitter testing has great utility for our pediatric patients. I use the testing commonly for my young patients with ADD (attention deficit disorder), ADHD (attention deficit hyperactivity disorder), anxiety, pervasive developmental delays (autism), tic disorders and sleep disorders. We are seeing more and more children with these conditions coming into our practices. The parents are often motivated to look for natural alternatives to avoid or minimize pharmaceutical medications that carry with them disconcerting warning labels. ADD/ADHD medications (usually some type of stimulant) are effective for less than 70% of patients, leaving many patients undertreated. Stimulants can also cause a number of significant side effects which include decreased appetite, weight loss, decreased growth velocities, dry mouth, constipation, insomnia, and nervousness. It is clear that other options are needed.

Several reasons have been postulated as to why we are seeing so many kids with these disorders. Genetic factors have long been recognized as a contributing factor, and new theories are coming forward such as nutritional deficiencies and environmental factors. We need to look to these potential causes to move our children to better health. Prior to any testing, I discuss dietary recommendations for these patients. It has been clearly shown that switching to organic food will decrease the child’s exposure to pesticides and therefore decrease exposure to compounds that have been shown to adversely interact with our brain chemistry. When considering nutritional deficiencies, we know our children are in crisis. Obesity in children is on the rise; french fries are the most commonly consumed food in children 19-24 months of age. Fruit consumption has declined to the point 1/3 of children 19-24 months of age consume NO fruit, and intake of micronutrients commonly falls below the recommended amounts. Thus we can clearly see why our children would not be getting the building blocks and cofactors they need to produce neurotransmitters and optimal brain chemistry balance.
commonly falls below the recommended amounts. Thus we can clearly see why our children would not be getting the building blocks and cofactors they need to produce neurotransmitters and optimal brain chemistry balance. Blood sugar balance also needs to be addressed. It has been shown that increased amounts of sucrose consumption result in increased destructive-aggressive and restless behavior. I start with dietary recommendations of an organic, whole food, low glycemic index diet, free of preservatives, artificial flavors, colorants and refined sugar.

There is evidence that supports the role of imbalances in neurotransmitters as an underlying factor in the development of behavioral and cognitive issues such as impulsivity, inattentiveness, and hyperactivity which are present in ADD/ADHD. The reason why anyone pharmaceutical medication may not work for every child with inattention is that ADD/ADHD is an overall label for a group of behaviors that may be due to different underlying neurotransmitter abnormalities. This is where spot urinary neurotransmitter testing is instrumental for differentiating one subtype of ADD/ADHD from another and providing a road map for treatment.

There are several patterns seen with neurotransmitter testing. Glutamate can be either high or low. We know glutamate to be involved in learning and memory but high levels are excitotoxic. Dopamine may be high or low. Dopamine is related to seeking reward. Children with ADD/ADHD have displayed normal task performance under conditions of high incentive but low task performance when there is low incentive. High levels of dopamine have been associated with inattention and hyperactivity. These children often have low serotonin on testing as well. Many of the effects of low serotonin occur because of serotonin's ability to interact with other neurotransmitters. For example, serotonin regulates dopamine release. Low serotonin can allow elevations in dopamine, contributing to hyperactivity and inattention. Low GABA is also common. It is considered a primary regulator of cognitive function and affect. We may also see elevated sympathetic activity of epinephrine and norepinephrine in these patients. We know norepinephrine levels are often increased during stress. During normal brain function norepinephrine is involved in alertness, focus and long-term memory. Higher levels have been associated with impulsivity and aggression while low levels with lack of focus. Both low and high levels have been associated with decreased cognitive performance. We need a good baseline level of norepinephrine but not a higher level activated by stress. Epinephrine enhances memory formation. This level is often low in ADHD but sometimes high in those with ADHD and anxiety. The results of the urinary neurotransmitter testing enable me to design a plan of targeted nutritional supplementation to address these imbalances.

Other treatment considerations include nutritional supplementation such as fish oil, magnesium, multi-vitamin, iron and zinc. The utility of these should be assessed for each child.

I get the best results in children with ADD/ADHD when employing a multi factorial treatment plan, addressing blood sugar balance, nutritional deficiencies, targeted nutritional therapy and balancing imbalanced neurotransmitters with urinary testing as a guide.
References:


About the Author:

Dr. Barrett is a naturopathic doctor in private practice in Southern California. She is an expert in the area of autistic spectrum disorders and lectures extensively on ASD as well as other topics, including pediatric care, vaccinations, hormone replacement, natural fertility, cardiovascular health and preventative wellness. In her practice of integrative medicine, she employees a combination of laboratory assessments, nutritional counseling, herbal medicines, nutritional supplementation, and hormone prescriptions. Dr. Barrett is a member of the California Naturopathic Doctor’s Association and American Association of Naturopathic Physicians.
A Practical “Tool” For An Integrative Approach

One of the clinical “tools” available to practitioners considering the natural therapy options discussed by Dr Watkins is Sanesco’s Communication System Management (CSM) model. The CSM model is a clinical system designed to help you to assess, monitor, and correct key neurotransmitter imbalances that may be associated with your patients’ symptoms of anxiety and depression. The CSM model includes three integrated components.

- The CSM model utilizes a noninvasive lab assay measuring neurotransmitter and adrenal hormone levels to establish baseline levels of a patient’s biochemistry. Subsequent testing is used as an effective tool for monitoring treatment.
- As a model of individualized medicine, CSM includes patient-centered analysis of symptoms and lab results. With oversight by Sanesco’s Medical Board, highly trained clinical staff correlates 48 patient-reported symptoms, current dietary and lifestyle factors, supplement and medication intake, to the reported lab results; generating a comprehensive “Correlation Analysis” report. This Correlation Analysis report provides you with extensive patient specific information to help you open the window to your patient’s neuroendocrine system.
- The third component of the CSM model is using the nutraceutical supplements discussed in Dr Watkins’ monograph. Sanesco’s Targeted Nutritional Therapy products are safe and effective options for restoring some of the biochemical imbalances that may be associated with anxiety and depression, as well as other symptoms related to neuroendocrine system function.

Sanesco developed this “CSM” model in collaboration with a team of medical doctors, naturopathic doctors, nutritionists, and researchers. The goal was to provide a practical science-based individualized approach for looking at the key contributors to potential underlying causes of chronic symptoms.

Sanesco provides complimentary training to practitioners on the three components of this model through its CSM Certification Program. This exclusive program includes one-to-one interactive training sessions, live webinars, a self-tutorial library, and much more. Contact a Sanesco representative to enroll today - Call 866.670.5705 and Press “2”

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