

The NeuroTransmission

Helping practitioners assess, monitor, and correct neurotransmitter and adrenal hormone imbalances.

Volume 4, Issue 4 · June, 2010

Sanesco International · 866.670.5705

Online presentation available at www.Sanesco.net



Editorial

Editor-in-Chief:

R.W. Watkins, MD, MPH,
FAAFP

Medical Editor:

Denise Mark, MD

Medical Editor:

Koren Barrett, ND

Contributing Editor:

Connie Shoemaker, ND

Volume 4, Issue 4
The NeuroTransmission
is published by
Sanesco International.

© Copyright 2010
All Rights Reserved
Sanesco International
1010 Merrimon Ave.
Asheville, NC 28804

866.670.5705

www.Sanesco.net

Featured Author



R.W. Watkins, MD, MPH, FAAFP

Appetite, Insulin Resistance, and Cravings:

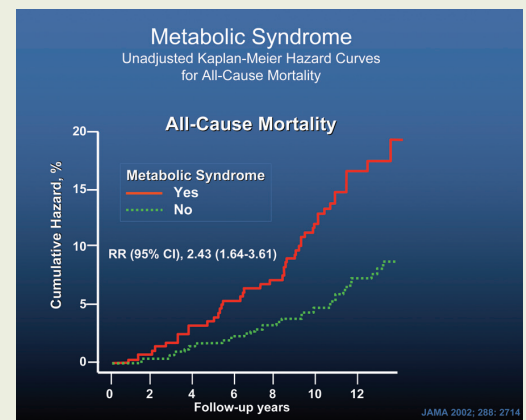
The HPA Axis Connection

.....
R. W. Watkins, MD, MPH, FAAFP

*“He who does not mind his belly
will hardly mind anything else.”*

- Samuel Johnson

Obesity in America is a BIG problem. We see the same thing to a lesser extent around the world as other countries adopt our Western lifestyle and dietary choices. The unifying theme for a variety of conditions involving insulin resistance, dysglycemia (glucose dysregulation), excess body fat, dyslipidemia, and endothelial inflammation called Metabolic Syndrome affects 47+ million Americans. Type II diabetes affects 16.2 million Americans. Some form of dysglycemia affects more than 30% of the adult U.S. population, and a rapidly increasing number of children & adolescents.¹ The combined effects of these conditions constitute the single biggest public health issue in this country.



Featured Author



Dr. Watkins earned his medical degree at East Carolina School of Medicine, and completed his internship and residency in Family Medicine at Florida Hospital, Orlando in 1989. He has a Master's in Public Health in Health Promotion and Nutrition from Loma Linda University in Loma Linda, California, with experience in both academic and corporate medicine.

Dr. Watkins enjoys a thriving integrative medical practice in Greensboro, NC and specializes in functional medicine with a focus on neuro-hormonal imbalances. He is a member of the American Academy of Family Physicians and President of the North Carolina Academy of Family Physicians, and a Clinical Assistant Professor at both the UNC School of Medicine and the Carolina School of Medicine.

Dr. Watkins has lectured on a wide variety of topics at the local, state, national and international levels. He has authored a number of articles and book chapters.

Dr. Watkins joined Sanesco's Medical Board in 2005 later becoming Medical Director and is currently serving as Sanesco's Chief Medical Officer and President and Laboratory Director of NeuroLab, Inc.

What is causing this dramatic change in our society? A theory that is gaining ground is the amount of refined carbohydrates, most notably sugar, in our diets. The average American consumes about 150 pounds of sugar per person, per year. Our genes are not programmed to handle that kind of glycemic load. Remember, refined sugar has only been

around in any kind of abundance for a little over 250 years. We have arguably been on this planet for about 2.5 million years. Therefore, if we were to return to a diet in harmony with our genes, the menu should mostly consist of lean protein, plenty of vegetables, and some low glycemic index fruits.

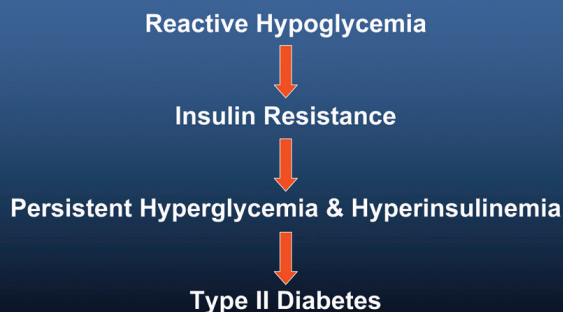
Now, let's talk about the amount of food we consume. We are a "supersized" society on so many levels. It might be a good idea if most Americans **learned to limit their portions and stop eating once they are full**. No one really wants to talk about it, but the truth is taking a few recipes from the cookbook of sacrifice, deprivation, and asceticism might go a long way toward improving health and extending life. Did you know that one of the only health behaviors that has ever been proven to extend human life is limiting calorie intake? A 20-25% decrease in caloric intake may extend life by 10-20%.² By decreasing calorie intake, we decrease free radicals that damage and destroy our mitochondria. Add to this load the quality of our food and the amount of toxins we are exposed to on a daily basis. One problem is many of these toxins are in the food we eat. Remember also the nervous system is much more complex and susceptible to injury than is the heart. We know the effect that poor dietary choices have on the heart. Is it any wonder that Parkinson's disease, ALS, Alzheimer's, ADHD, and depression are all on the rise?

"To lengthen thy life, lessen thy meals."

- Benjamin Franklin

Increased blood sugar levels over time lead to sustained higher insulin and eventually insulin resistance with the potential to develop frank diabetes. Just having high insulin and sugar levels is quite a predicament for the cardiovascular system. As a result, our proteins literally become "caramelized" like the top of a crème brulee by the formation of advanced glycosylation end products (AGEs). These then bind to receptors on macrophages and other immune cells that increase the production of inflammatory mediators and adhesion factors, promoting more heart and neurological disease.


Stages of Dysglycemia and Metabolic Dysfunction



At Sanesco, we see a number of patterns on the HP and HPA profiles when the insulin/glucagon system gets out of balance. We typically see elevated levels of norepinephrine (NE) and/or epinephrine/adrenalin with insulin resistance, metabolic syndrome, and diabetes. We often see high GABA as it tries to compensate for an elevated NE and/or a low serotonin. Improved dopamine tone decreases insulin resistance. **We know that low levels of serotonin begin a cycle that perpetuates itself. Low serotonin can contribute to carbohydrate cravings, leading to elevated sugar levels which in turn can continue to lower serotonin levels.** This is one of the reasons some people going on an Atkins-type (low carb) diet often feel terrible – carbohydrates make us FEEL better - we get a temporary rise in serotonin. Those patients who fail a low carb diet typically have very low serotonin levels, using sweets and refined carbohydrates to self-medicate. However, the fix is a slippery slope and eventually this behavior makes the situation worse.

The insulin/glucagon imbalance is also often represented in the adrenal picture. How does the body modulate low blood sugar (which is usually a result of the blood sugar swinging from too high to too low)? It does so by stimulating the release of epinephrine and glucagon - but also cortisol. Yet another reason we see such low levels of cortisol in patients who have poor diets.

Sanesco can help bring stability back to your patients by restoring neurotransmitter balance with products such as Prolent, Lentra, Contegra, Procite-D, and MethylMax. Adaptacin can be used to help support the adrenals. **Plenus will be helpful to your patients by helping control appetite and bringing a feeling of fullness when taken with water before a meal.** In addition, as important as these wonderful supplements are, continue to encourage patients to adopt changes such as using smaller plates to limit portions, drinking plenty of water, exercising (which will improve insulin resistance), and limiting refined carbohydrates. I recommend the South Beach Diet to many patients as its Phase One does help to bring balance back to insulin/glucagon and then reintroduces healthy carbs into the diet. Finally, let's all push back from the table, skip a meal occasionally, or think about a fast from time to time. Then donate the money you would be spending on your meal to a favorite charity, local food bank, or shelter.



NeuroLab
A Division of Sanesco International

The foremost reference laboratory for the measurement of biomarkers associated with HPA-T axis function.

HPA Profile (1)

(Hypothalamic-Pituitary-Adrenal Axis)

Roy Watkins, MD
Wanek Medical Center
Greensboro, NC 27408

Gender: M Age: 57

Date Collected
08/10/2009

Date Received
08/13/2009

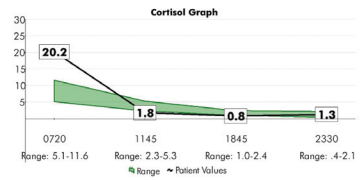
Lab Final
08/20/2009

Report Final
08/24/2009

Date Reported
08/24/2009

Marker	Values	Range
INHIBITORY NEUROTRANSMITTERS		
SEROTONIN	72.4 (L)	150-300 mcg/g Cr
GABA	751.5 (H)	550-750 mcg/g Cr
EXCITATORY NEUROTRANSMITTERS		
DOPAMINE	123.5 (L)	150-300 mcg/g Cr
NOR-EPINEPHRINE	54.0 (H)	20-45 mcg/g Cr
EPINEPHRINE	9.8	3-20 mcg/g Cr
GLUTAMATE	36.4 (H)	15-35 uM/g Cr
ADRENAL ADAPTATION INDEX		
NOREPI/EPI RATIO	3.0	<10
ADRENAL HORMONES		
CORTISOL (0720)	20.2 (H)	5.1-11.6 nM
CORTISOL (1145)	1.8 (L)	2.3-5.3 nM
CORTISOL (1845)	0.8 (L)	1.0-2.4 nM
CORTISOL (2330)	1.3	4-2.1 nM
DHEA-s (0720)	3.8 (H)	1.0-3.0 ng/ml
DHEA-s (1845)	1.5	1.0-3.0 ng/ml
OTHER MARKERS		
CREATININE, URINE	43.9	mg/dL

Creatinine is used to calculate results and is not intended to be used diagnostically.



Cortisol Graph
 0720 1145 1845 2330
 Range: 5.1-11.6 Range: 2.3-5.3 Range: 1.0-2.4 Range: 4-2.1
 ■ Range ◆ Patient Values

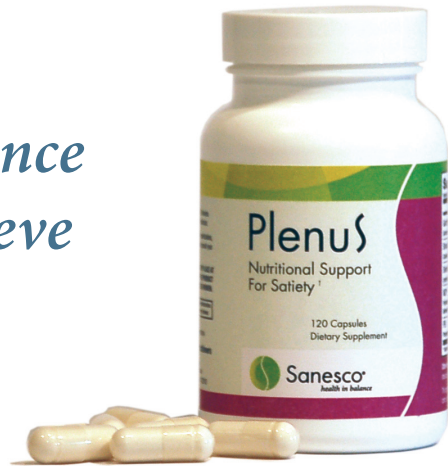
Whenever laboratory data conflict with clinical findings or impressions, clinical judgment should be exercised and additional evaluation undertaken.

Page 1 of 1 Results Processed By CLIA #: 24D1054007, NeuroLab Asheville, NC
 NeuroLab, A Division of Sanesco International • 1010 Merrimon Ave, Asheville, NC 28804 • Phone: 877-216-6811 Fax: 828.670.5805 • www.NeuroLaboratory.net

References

1. Prevalence of Metabolic Syndrome, Third National Health & Nutrition Examination Survey (2002), JAMA, January 16, 2002 – Vol.287, No. 3
2. Overview of Caloric Restriction and Ageing, Masoro, EJ. Mech Ageing Dev. 2005 Sep;126 (9):913-22.

*Give your patients the confidence
and control they need to achieve
their weight loss goals...*



Sanesco is now offering **Plenus**, a new Targeted Nutritional Therapy product as an adjunct to the CSM clinical model to **manage the hormones of the Appetite Regulating Network "ARN"**.

Sanesco's innovative clinical approach to healthy weight management addresses HPA axis function, which plays a major role in the control of food intake, glucose metabolism, lipid storage, and energy balance. **Our body's ARN controls appetite drive through excitatory and inhibitory neural messaging to and from the hypothalamus.** By promoting balance between appetite stimulation and satiation, your patients can achieve drastically improved outcome with healthy weight management.

A Healthy Weight Management Model must include balancing inhibitory and excitatory neurotransmitters plus hormones of the ARN.

- **Assess and Correct** cortisol, serotonin, dopamine, CCK, leptin and ghrelin
- **Achieve** decreased fat deposit, increased lean body mass, reduced appetite, and improved energy, sleep, and mood

Call your Practice Building Specialist today to learn more about Plenus, and how you can implement this innovative approach to **Healthy Weight Management** in your practice.

Call 866.670.5705 and press "2"



About Sanesco International

Sanesco International is a medical company leading the way in assessing, monitoring, and correcting neurotransmitter and adrenal hormone imbalances affecting HPA-T axis function. Since inception in 2004, the Sanesco team remains committed to providing an effective clinical model with practical solutions to help practitioners address their patients' chronic symptoms, acute conditions, and to practice preventive medicine. **Contact one of our Practice Building Specialists today to learn how you can find more success with addressing your patients chronic symptoms and conditions.**

1010 Merrimon Ave. • Asheville, NC 28804 • 866.670.5705 • www.Sanesco.net