Signs & Symptoms of Adrenal Stress Syndrome
Cortisol Imbalance Signs & Symptoms

- Fatigue (most common symptom)
- Headaches with physical or mental stress
- Weak immune system
- Allergies
- Slow starter in the morning
- Gastric ulcer
- Afternoon headache
- Fullness or bloated feeling
- Crave sweets, caffeine, cigarettes
- Blurred vision, unstable behavior
- Getting shaky or lightheaded if meals are missed or delayed (reactive hypoglycemia)
- Irritable before meals (reactive hypoglycemia)
- Eating relieves fatigue (reactive hypoglycemia)
- Cannot stay asleep (adrenal hypofunction)
- Cannot fall asleep (adrenal hyperfunction)

The Impact of Adrenal Stress Syndrome on Human Physiology and Metabolism

A. Blood Sugar Imbalances- Elevated cortisol will result in hyperinsulinemia and cause all the adverse impacts of elevated insulin associated with it. Decreased cortisol will cause hypoglycemia. Hypoglycemia cannot be corrected unless the adrenals are normalized.

B. Thyroid Defects- Elevated cortisol will decrease active T3 levels and therefore reduce the potential of optimal gene expression by thyroid hormones.

C. Anterior Pituitary Hypofunction – This may be identified with a TSH, FSH, and LH below the functional range of 2.0 and subjective indications such as: reduced thirst, lack of menstruation and weight gain around the hips and waist.

D. Liver Detoxification Dysfunction –The body's detoxification system becomes suppressed during adrenal stress syndrome due to chronic elevations of cortisol. People with congested livers or overworked detoxification systems may have the following signs and symptoms: skin blanching with pressure, acne or acne worse at menses, constipation, bloating, sensitivity to medications, unresponsiveness to endocrine support (hormones or supplements), etc.

E. Intestinal Dysbiosis and Leaky Gut Syndrome –Elevated cortisol levels have adverse affects on the gastrointestinal tract by suppressing secretory IgA (SIgA), delaying mucosal cell regeneration and by promoting proinflammatory environment. In addition, the SIgA suppression may allow Candida, and other yeast organisms to overpopulate the GI tract. If the effects of elevated cortisol are not corrected it will cause a dramatic delay in normalizing dysbiosis, leaky gut syndrome and other chronic gastrointestinal conditions.

F. Suppressed Immune System – Elevated cortisol levels have suppressing effects on the immune system and can decrease a person's ability to fight infections and other immune pathogens. This suppresses SIgA levels and decreases white blood cells, induces atrophy of the thymus gland, and decrease interleukin-2 production.

G. Gastric and Duodenal Ulcers – Hans Selye's original research of chronic adrenal stress recognized that the effects of elevated cortisol can induce gastric and duodenal ulcers. It appears that increased cortisol levels seem to allow the gastric and duodenal lining to thin and become more susceptible to the development of ulcers.

H. Bone Density Lowered - Elevated cortisol has negative impacts on bone metabolism. It appears that either endogenous or exogenous cortisol leads to calcium malabsorption, lower bone mineral density and increased risk for fractures.

I. Depression – As our current understanding of neurotransmitter involvement with depression has evolved, we now realize that norepinephrine is a major player in the neurochemistry involved with depression. Theories of its impact have been associated with both decreased norepinephrine overproduction that leads to neurotransmitter down-regulation. In any case, the management and regulation of the metabolic stress response has its role to play in the depressed patient.

J. Insomnia –A common pattern seen clinical with people that have hyper-function (overactive) is inability to fall asleep. With adrenal hypofunction (under-active), the symptom is exactly opposite…..these people will be able to fall asleep, but not stay asleep. Therefore both hypo and hyper adrenal function impact insomnia.

K. Neurodegenerative Disease – Lowered DHEA levels, which is often associated with the pregnenolone steal that takes place in adrenal stress syndrome, has been linked to Alzheimer's disease. Elevated cortisol has also shown to cause hippocampal cell destruction due to excitotoxicity of cortisol sensitive hippocampal cells. Elevated HPA activity has also shown to increase levels of inflammatory cytokines. Upon exposure to inflammatory cytokines and neurotoxic agents such as nitric oxide and other oxidants that can damage neurons and cause neuronal apoptosis (cell death). The tern "gliosis" has been generally applied to this process of inflammation-induced damage to the glia and subsequently to the neurons. Gliosis has been identified in numerous neurodegenerative conditions including Alzheimer's, Huntington's disease, multiple sclerosis, as well as ischemia, edema and seizures.

L. Cardiovascular Disease –People suffering from chronic stress impacts physiology in multiple ways to increase risk factors associated with cardiovascular disease. Elevated cortisol, at even small quantities, has been associated with increased risk for cardiovascular disease. This may be due to the impact of cortisol on hypertension, insulin resistance, obesity and hypertriglyceridemia.

For questions regarding the saliva test for Adrenal Stress Syndrome, please contact:
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