

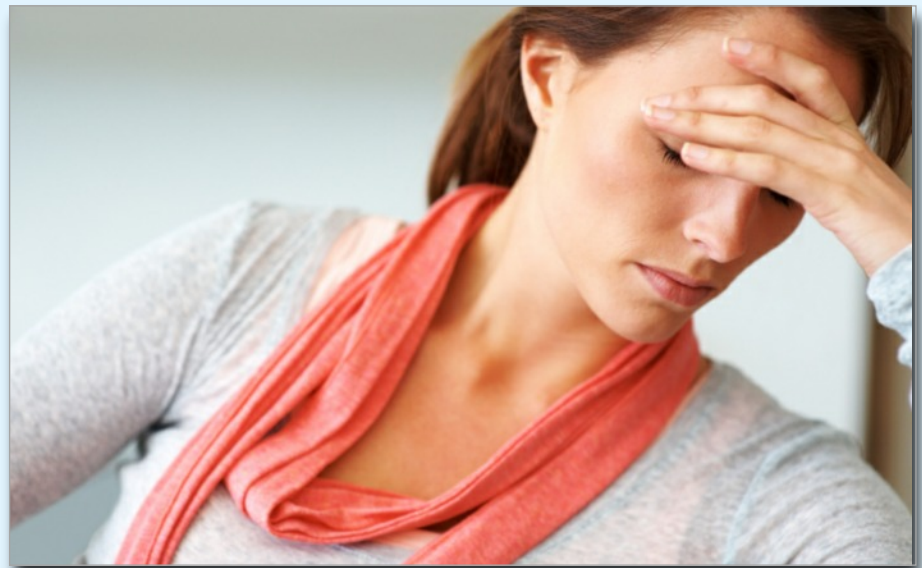
Depression: An Inflammatory Condition

" Depression is the leading non-fatal disease in the world and about 1 in 10 people report being depressed. "

Most of us have heard about the connection with neurotransmitters and depression; however, more research is elucidating the role of "inflammation" in depression. I'd like to thank Dr. Court Vreeland for his webinar which describes the process in detail. But here are some highlights.

Depression is the leading non-fatal disease in the world. About 1 in 10 people report being depressed. Only 30% of patients achieve remission with one treatment and 70% with 4 cumulative treatments. Dr. Vreeland shared a paper that found 37 studies showing a positive benefit to taking antidepressant medication but the same paper pointed out 36 studies showing that they did not work. It seems obvious there is a role for complimentary wellness care in the prevention and treatment of depression. Drug companies have focused on the serotonin model of depression and profited billions of dollars.

In 1991 another theory based on the inflammatory process



gained attention. People with depression have more inflammatory cytokines specifically IL-1, IL-6 and tumor necrosis factor. Remember cytokines are the messengers or communication markers the immune system uses to turn on or off metabolic processes. CRP is also a marker of inflammation and is commonly elevated in depressed individuals.

Excess adipose tissue, Diabetes and dysglycemia stoke the inflammatory fires. Patients with depression also generally have higher levels of cortisol, increased sympathetic domi-

nance and decreased parasympathetic activity. Dr. Vreeland shared another interesting piece to the inflammatory puzzle. Normally, less than 1% of tryptophan is available to be converted to serotonin in the brain. However, when the immune system is over stimulated these numbers may be reduced 25-50%.

So our first priority is to look for the factors that increase inflammation. Dr. Vreeland recommends using the Beck Depression Inventory to screen patients to see if they are experiencing depression or just the

normal ups and downs of life. This test utilizes 21 self scored questions and can be easily repeated in 6 months to re-evaluate your therapies. You can see a link below to access a copy.

Many of your patients may come to you with pain; but if the statistics bear out, 1/10 will have underlying depression which compounds the experience of pain. Using the Beck Depression Inventory you have greater evidence that will encourage patients to embark on an anti-inflammatory lifestyle.

Let's consider treatment. Diet is essential and perhaps one of the main reasons why traditional medications are so iffy. First we must encourage our patients to lose weight. Adipocytes, a type of fat cell and adipose tissue secrete cytokines. Obesity is associated with increased "adipose tissue macrophages" and they secrete the most IL-6 and TNF- α . On the flip side, obesity causes a reduction in a molecule that you will be hearing a lot about in the future called adiponectin.

Adiponectin is a major inhibitory factor for NF-kappa B, tumor necrosis factor alpha and interferon-gamma (IFN- γ). Adiponectin also increases the anti-inflammatory cytokines. As a reminder, these cytokines or protein complexes ARE CRITICAL for a healthy immune system. However when they become aberrant they are associated with a number of auto inflammatory and autoimmune diseases.

Dr. Vreeland maps out the strategy as follows: Reduce production of proinflammatory cytokines, increase the activity of the T-regulatory cells, reduce excess immune drive by reducing the allergen exposure, reduce autoimmunity and balance neurotransmitter function.

Here's how he describes his diet to his patients. "Every time you eat, have a healthy source of protein and a fruit or vegetable with the emphasis on vegetables. Limit grains of all sources as

they tend to promote over production of insulin and inflammation."

Two nutrients he focuses on to reduce cytokines and inflammation will not surprise you, vitamin D in the form of Bio-D-Mulsion Forte at 2,000 IU per drop. He uses enough to bring blood levels to 55 ng/ml. He also uses 1 tablespoon of the fish oil Biomega-3 Liquid, yielding 4200 mg of omega-3 fatty acids, which also reduces excess omega-6 fatty acids. To reduce free radicals, specifically the reactive oxygen species or ROS, he uses Superoxide Dismutase, a Biotics Research product called Dismuzyme Plus Granules added to food or juice. To raise dopamine in the brain Dr. Vreeland uses the botanical Mucuna Pruriens, in DopaTrophic Powder which allows L-dopa to cross the blood brain barrier converting to dopamine, norepinephrine and epinephrine.

Finally some patients will have anxiety adding to the complexity of the problem. Sometimes anxiety will be reduced by diet and supplement, however... "for difficult cases or if after a period of 30 days anxiety is still a major issue, Dr. Vreeland adds Phenibut in PheniTropic, which allows GABA to cross the blood brain barrier."

You can see his protocol below. Please take the time to watch the entire webinar and even his first webinar specifically on neurotransmitters called "Neurology and Nutrition - Connecting the Dots." I hope you are as energized as I am by this discussion. We have never had the tools or understanding to treat depression at so many different levels and to ultimately make such a profound difference in our patients' lives. We can make changes in patients' inflammatory status that will not only help their depression but help them experience less pain and ultimately increase longevity.

Thanks for reading this week's edition; I'll see you next Tuesday.