Congratulations to Dr. Alex Vasquez as he completed his 7th medical textbook since 2004. He’s titled his new book *Migraine Headaches, Hypothyroidism and Fibromyalgia: Assessments and Therapeutic Approaches using Integrative Chiropractic, Naturopathic, Osteopathic and Functional Medicine*. This book is a real treasure of information regarding the pathophysiology, testing parameters and treatment options for fibromyalgia, headaches and hypothyroidism.

Let’s look at, what I consider, the highlights of the chapter on fibromyalgia. Veteran viewers know that cellular bioenergetics involving mitochondrial function is a key factor in the treatment of fibromyalgia. So things like magnesium, Coenzyme Q10, phosphorylated B vitamins, D-ribose and the co-factors that the body needs to restore mitochondrial impairment play a major therapeutic role.

Deficiencies in vitamin D or essential fatty acids, food sensitivities especially wheat and dairy, as well as the accumulation of heavy metals including iron have also been identified as therapeutic targets. But I never understood why small intestinal bacterial overgrowth (SIBO) is such a big factor with these patients.

Just like a lawyer builds a case for the prosecution, Dr. Vasquez systematically shows how SIBO can be the underlying factor for many of the symptoms associated with fibromyalgia. Even though the term SIBO refers to the small intestine, the large intestine can also experience an excess of bacteria. These bacteria can be aerobic as well as anaerobic.

Let’s look at four reasons why small intestinal bacterial overgrowth or SIBO must be addressed. First, SIBO leads to systemic overproduction and absorption of toxins that impair brain/nerve and muscle mitochondrial functions. Bacterial cellular debris such as lipo-polysaccharide or LPS is highly immunogenic and stimulate the production of endogenous interleukin-1 and tumor necrosis factor. LPS is a potent activator of macrophages. So LPS can cause inflammation, mitochondrial impairment,
muscle dysfunction, and an increased perception or sensitization to pain. LPS is a very large molecule and can be a major factor creating what we call "leaky gut."

Secondly, bacterial overgrowth produces D-lactic acid which is a neurotoxin as well as a metabolic poison in abnormal amounts. It can cause fatigue, muscle pain and problems with cognition.

Thirdly, bacterial overgrowth can produce hydrogen sulfide. Hydrogen sulfide is also a neurotoxin / metabolic poison and can also cause fatigue, muscle pain and dyscognition.

Finally and perhaps the least recognized is the fact that bacteria can produce tryptophanase. As the name suggests tryptophanase digests tryptophan which is the main building block for serotonin and ultimately melatonin. The literature shows that "fibromyalgia patients have been shown to be low in tryptophan which means poor sleep and increases in pain, fatigue, carbohydrate cravings, and depression. Tryptophan depletion leads to melatonin deficiency which in turn leads to sleep disturbances, mitochondrial impairment and oxidative stress as well as muscle fatigue."

Can you see why Dr. Vasquez believes SIBO is one of the key underlying factors in a fibromyalgia treatment plan? Fibromyalgia shares several clinical features with chronic fatigue syndrome and irritable bowel syndrome. The reason for these overlaps is not generally understood by most clinicians but Dr. Vasquez is clear that the connection is "in the gut" namely SIBO.

Bacterial overgrowth can cause fatigue, confusion and brain fog which are common with chronic fatigue syndrome. Bacterial overgrowth can create by-products that are known metabolic poisons or neurotoxins which can decrease transit time to the point of a loose stool or even explosive diarrhea. Experienced clinicians recognize that lipopolysaccharides are also responsible or at least a major contributor for "leaky gut" which intensifies food sensitivities and can also create irritable bowel symptoms.

What would the clinical picture be for someone with SIBO? Gas and bloating especially when consuming carbohydrates, probiotics or simple sugars. Patients may also have constipation and/or diarrhea. Brain fog, fatigue, muscle pain and food sensitivities are also very common.

The medical community is beginning to understand these principles and treat with antibiotics. Dr. Vasquez's treatment of choice? 600 mg of an emulsified oregano compound called A.D.P., taken in divided doses. A.D.P., one of the premier products developed by Biotics Research Corporation, has been effective in the treatment of fungi and various parasitic strains. 4 tablets (200mg) of emulsified oregano can coat the entire GI tract.

Food scientists and clinicians around the globe tout oregano as a powerful antibacterial agent. By emulsifying the oregano oil, the ability to coat the intestine, thereby increasing its therapeutic benefits, is increased dramatically.

Dr. Vasquez shared his data about fibromyalgia on a webinar with all the references and protocols. I have listed Dr. Vasquez's complete protocol below for your convenience, but I encourage you to watch the webinar and get a copy of his book to have the references at your finger tips. His book is full of clinical pearls.

The number of patients with fibromyalgia, irritable bowel syndrome and chronic fatigue syndrome is growing. Consider the treatment of small Intestinal bacterial overgrowth as a major factor in your therapies.

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