

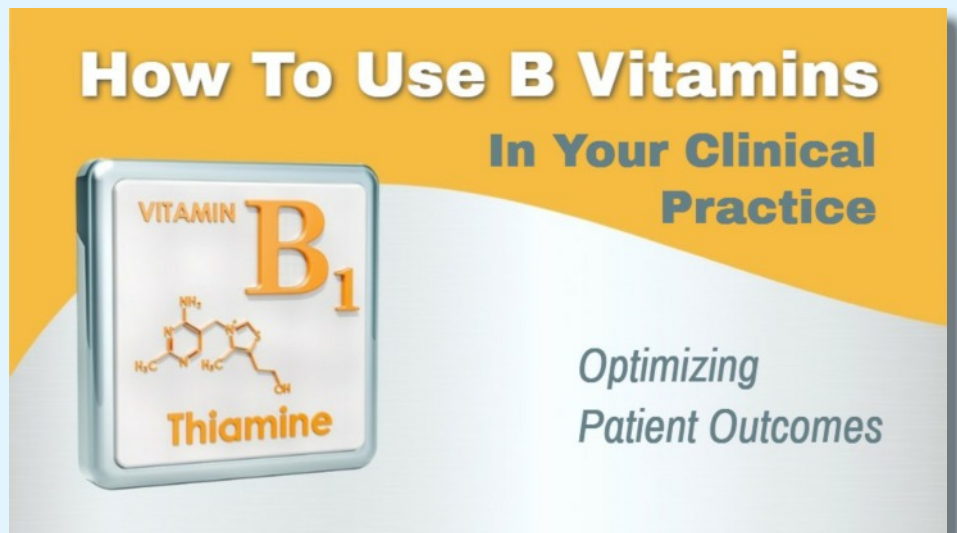
Thiamine Deficiency

Part 2

“By flooding the system with thiamine, he was using thiamine as a drug to coerce the energy metabolism back to life.”

In an earlier Tuesday Minute, we discussed that thiamine deficiency is a rate-limiting nutrient that creates a pseudo-hypoxia chemistry. Part of the reason is that thiamine phosphate or co-carboxylase is needed to make precursors and co-factors for the citric acid cycle as well as other important energy enzymes to make ATP. Please take the time to review part one of this discussion to get the context before we discuss dosing. Remember, all cellular repair takes energy, and we think of nutrients like CoQ10, acetyl carnitine, lipoic acid, NAC etc. to support mitochondrial repair. But Dr. Lonsdale and his work wanted to go upstream and see if raw materials are available to provide the enzymes and co-factors for these important energy pathways. If cells can't repair or are in a hypoxic state, all kinds of symptoms can occur.

It's worth repeating this list that one of my mentors, Dr. Mark Force gave in his webinar titled, “Using B Vitamins in Clinical Practice: Optimizing Patient Outcomes,” focusing on B1, B2 and niacin. He



shared that thiamine deficiency can result in the following: an enlarged heart or heart failure, pulse below 65 or an irregular pulse, low blood pressure, varicose veins, spider veins and/or hemorrhoids, slow reflexes, irregular heartbeat, someone who experiences worry, anxiety, insecurity or highly emotional state, sensitivity to noises or smells, trouble with concentration or foggy thinking, patients with gas, bloating, indigestion, aware of muscle twitching, feel drowsy after eating, sore achy muscles after little exercise, constantly fatigued, wake up at night to urinate, wake up at night and can't get back to sleep,

patients who experience back pain when in one position especially in bed at night, head-band like headache like a tight band around the head, itchy skin, sensitive to insect bites, shortness of breath, no stamina, frequently yawn, low body temperature, muscles feel weak, and the body feels heavy.

As I mentioned in part one, both Dr. Lonsdale and Dr. Force shared direct lab testing is expensive and not readily available. Dr. Force suggested serum CO2 is a good indicator because it reflects mitochondrial function. Combining CO2 below 26 and the symptoms we discussed will

give you a good idea if a clinical trial is warranted. Some doctors may use muscle testing. Another way to test for functional deficiency is to use an in-office test called the Rhomberg. Thiamine deficiency has a major effect on the autonomic nervous system, which is why one's balance will be affected. You can see a link to the right that discusses it in more detail.

Dr. Lonsdale used extremely high doses of thiamine. He routinely gave children 400-500 mg. By flooding the system with thiamine, he was using thiamine as a drug to coerce the energy metabolism back to life. Using high doses like this go under the orthomolecular category. He claims there is no toxicity with high doses. He has used up to 7 grams of B1 with one patient. One of Dr. Lonsdale's colleagues cautioned people... don't be alarmed because sometimes using high doses can make someone worse for a week to 10 days. One possibility is that high doses activate so many enzymes that cells have more energy to dump toxins, which can create additional free radicals and stress.

There are many forms of thiamine. Thiamine hydrochloride and thiamine mononitrate, which are both water soluble, Benfotiamine, which is fat soluble, and a form called TTFD. But the body converts all these forms to thiamine pyrophosphate which is also called cocarboxylase. Why not use cocarboxylase directly in small doses throughout the day? Knowing the body pool is 30 mg of B1, many clinicians have supplemented directly with cocarboxylase in smaller doses throughout the day, in fact every waking hour.

Bio-3B-G from Biotics Research contains 1.5 mg of cocarboxylase as well as the other B vitamins at a lower dose in their methylated forms. Taking 2 tablets per waking hour for 10 days, then reducing the dose to 3 tablets tid has brought tremendous relief for patient's symptoms usually in 21 days.

Dr. Lonsdale said he never gave high dose thiamine without magnesium and a well-rounded multivitamin. Dr. Mark Force who has applied more of Dr. Lonsdale's work than anyone I know suggests Mg-Zyme starting at 400 mg at bed and increasing the dose until patients achieve a loose but formed stool. His favorite multivitamin is a low dose multivitamin called Bio-Trophic Plus and uses 3 bid. He feels this food grade supplement provides the greatest range of nutrients in easily tolerated bioavailable forms. Both Bio-Trophic Plus and Bio-3B-G are very small tablets. If after 30 days, you want to add a higher dose, consider Thiamine 50 which contains 50 mg of B1 as thiamine mononitrate, for doctors that want to give higher doses.

Keep in mind that B vitamin deficiencies can take up to nine months to completely correct. I have provided some additional links describing Dr. Lonsdale's work. Even though he has never reported problems with high dose therapies, it doesn't hurt to go slow, while cleaning up diet and lifestyle and then graduating to higher doses as needed.

Thanks for being with me today. I look forward to being with you again next Tuesday.