THE TUESDAY MINUTE

IT'S TIME TO FEEL GOOD AGAIN

THIS WEEK'S TOPIC

What To Know About CO_2

"CO_2 is a necessary byproduct of the citric acid cycle. In fact, low levels of CO_2 reflect ineffective mitochondrial function."

For some strange reason, I have always had a fascination with CO2. I know I'm a little weird. It started when Dr. Walter Schmidt was teaching a class in Chicago called Clinical Pearls. Dr. Schmitt was discussing how CO2 is a necessary byproduct of the citric acid cycle. In fact, low levels of CO2 reflect ineffective mitochondrial function. He shared CO2 is essential for several metabolic functions, one of which is to make carbonic anhydrase. Carbonic anhydrase is essential for HCL in the stomach, pancreatic enzymes, kidney, and lung function. Carbonic anhydrase combines water and carbon dioxide in the presence of zinc to form carbonic acid. Carbonic acid then dissociates into hydrogen ions and bicarbonate ions necessary for cerebrospinal fluid synthesis.

He shared a way to functionally test low production of CO2 in your office, which I'll share in a minute. But my fascination was enhanced by a discussion between Dr. Joe Mercola and Dr. Arkadi Prokopov. You can see a link to the right for the transcript. Dr. Prokopov shared that CO2 is a natural vasodilator and when you increase CO2, it relaxes blood vessels, and so in many cases, it can relief headaches. He casually mentioned his experience with whooping cough, rhinitis, and how increasing CO2 can have an antihistamine effect. He made a comment that really intrigued me, "So really, every condition you can think of, both physiological and mental, can be remediated, and in many cases, cured by increasing endogenous CO2 production, decreasing its degradation, which is what the carbonic anhydrase inhibitors do, and/or taking extra CO2 exogenously. And of course, the most important thing, breathe through your nose, not through your mouth, and not too often."

One of the strategies he has implemented to increase CO2 is called Intermittent Hypoxic Training. He shared that combining Intermittent Hypoxic Training and nutritional components, he has successfully treated more than 200 Lyme patients. So, I really encourage you to read the transcript. It's fascinating.

Let's come back to the class Dr. Schmidt taught because it can give us some insight on how to use this information

clinically. After our lunch break, one of the doctor's came back with what she called an ocular migraine. She apparently ate some food with MSG. She couldn't look at me without getting dizzy because I was wearing a striped shirt. It was really kind of eerie. The doctor was clearly in serious pain. Dr. Schmitt was demonstrating how we can temporarily increase CO2 titers in patients by having them rebreathe their own air in a paper bag. Like this. Make a mask. Now, hold it tight against the face, and breathe in and out for 6-8 breaths.

When I asked Dr. Schmitt if he could help this doctor, he said, “let's start by having her rebreathe and increase her CO2 levels. If that helps, we can have her taste the nutrients that supports the citric acid cycle.” To my surprise, after rebreathing into a bag eight full breathes, her headache was significantly better. She could look at me easily without becoming dizzy and smiled. She later chewed the nutrients for the citric acid cycle, and within 45 minutes, was pain free. It was very dramatic to say the least.

How can we apply this clinically? If you use muscle testing, look for a weak muscle. If you don't use muscle testing, look for a limited range of motion or pain as an indicator. Dr. Boven taught me that you can look at the fine print in a magazine or book that is small enough so it looks out of focus. Remember, vision is dependent on the muscles associated with the eyes. Now, have your patient rebreathe into a paper bag which will temporarily raise their CO2 level. Reassess. If the range of motion was extended, pain reduced, a previously weak muscle strengthened, or visional focus improved, this is an indicator that the citric acid cycle is not making enough CO2. Remember, when CO2 is low, there is probably mitochondrial inhibition.

Of course, the rebreathing effect is temporary. Once the pain or range of motion returns to its dysfunctional state, in a few minutes, we can test nutrients to see which ones support the citric acid cycle by tasting them and evaluating whether they reproduce the result of the rebreathing effect. Neurolingual or “taste” testing can determine which nutrients will facilitate or enhance the citric acid cycle, which creates more CO2.

One of the products that comes up most frequently is Bio-3B-G, a B-vitamin formulation containing the phosphorylated forms of thiamin (B1), riboflavin (B2), and vitamin B6, with a higher amount of thiamin, as compared to riboflavin and niacin, for increased thiamin needs. The predominant form of thiamine in the body is thiamine pyrophosphate also known as co-carboxylase. Biotics Research combines 3 parts cocarboxylase and 1 part of the other parts of the B-complex. Each tablet contains 1.5 mg of the biologically active form of B1, cocarboxylase. If a thiamine deficiency is suspected, use Bio-3B-G, up to 2 tablets per waking hour for 10 days then reduce to 2-3 tablets, 3 times a day.

I know I've covered a lot of ground in this brief segment, but my goal is to introduce you to a subject you may have overlooked because it has so much clinical relevance. Thanks for taking time to be with me. I look forward to being with you again next Tuesday.