Wellness Minute
Health Information You Can Use On Your Path To Wellness

Hydrocholric Acid (HCL)

"Most people with stomach issues do not have too much hydrochloric acid (HCL), but are actually deficient in HCL."

I want to share a clinical pearl on digestion that I will never forget. It's what makes me believe one of the most under-diagnosed contributors to chronic disease is hydrochloric acid deficiency. I learned it over 40 years ago from my friend and colleague, Dr. Devaki Berkson. On a college campus, baseline levels of HCL were taken from about a dozen "healthy" college students, but before the experimental part of the trial could begin, the flu broke out on campus. This added a twist to any HCL experiment because sickness will diminish HCL production. In an effort to salvage their time and data, the researchers decided to see how long it would take for the subjects to return to their baseline levels of HCL after the flu abated. Most returned to baseline in 2 months. However, 2 of the subjects took 2 years to return to baseline.

Why does it take so long? Because it takes tremendous energy for the parietal cells in our stomach to concentrate hydrogen ions to make hydrochloric acid, HCL for short. Did you know the highest concentration of energy producing cells in our body called mitochondria are located in the stomach?

So, if the flu can alter HCL production for healthy college students, what about people with long-term chronic issues? Jonathon Wright, MD has been a major proponent of HCL therapy. For decades he had his patients swallow a little radio transmitter device called a Heidelberg capsule to measure HCL levels. He found "most people with stomach issues do not have too much hydrochloric acid (HCL), but are actually deficient in hydrochloric acid (HCL)." In his book, Why Stomach Acid is Good for You, he discusses how bacteria is destroyed by healthy HCL levels. He shares a study in India where a cholera epidemic found some villagers very sick, and yet, some people did not contract the disease. Public health officials found that the people who did not get sick had healthy levels of HCL.

Let's get a little technical for a minute. The pH of the stomach should be extremely acidic. The pH scale goes from 0-14. 7 is distilled water. Stomach acid should be in the 1.5-2.0 range. That's acidic! Healthy stomach acid "turns on" pepsin, which is a key player in protein digestion. Proper pH activates another enzyme, secretin, which "turns on" pancreatic digestive enzymes. It also "turns on" cholecystokinin, which activates healthy fat digestion.

Here's something a lot of people don't understand. If the pH of the chyme is higher than 5, the buffering agents in the small intestine are not secreted. These buffering agents change an acidic environment to a mild alkaline environment. If the pH of the small intestine remains mildly acidic, bacteria and yeast creep up from the large intestine and take residence in the small intestine. Now, when you eat carbs or take probiotics these bacteria multiply and create gas and bloating. When it gets extreme, it's called Small Intestinal Bacteria Overgrowth or SIBO. As a reminder, there are constant unavoidable bacteria that come from our mouth and nose. Healthy HCL in our stomach will destroy them.

Here is a partial list of conditions that can be linked to hydrochloric acid deficiency. Adrenal exhaustion, asthma, Celiacs, Crohn's, dermatitis, diabetes, eczema, small intestinal bacterial overgrowth or SIBO, Graves' disease or hyperthyroid, hypothyroid, autoimmune disorders like lupus, rheumatoid arthritis or myasthenia gravis, pernicious or B12 anemia, osteoporosis, or osteoarthritis.

Other causes of low HCL are age, infection, high carb meals, not chewing our food, stress causing an overstimulated sympathetic nervous system, and deficiencies in B1 and zinc, both needed to make HCL.

I've never seen it in literature, but if low hydrochloric acid contributes to these conditions, chemically lowering hydrochloric acid with over the counter acid blockers should contribute to these conditions as well. Even though lab tests are a great indicator, symptoms are often the best rationale for a clinical trial regardless of the lab tests.

Here are the symptoms that suggest a need for hydrochloric acid: gas, burping or bloating, especially within 30 minutes of eating or when eating protein, bad breath or body odor, asthma, food or environmental allergies, intestinal parasites, loss of the taste for meat, and pancreatic or biliary dysfunction. If two or more of these symptoms are present, a clinical trial of hydrochloric acid should be considered. Your wellness clinician can recommend a HCL supplement to take in the middle of your meal to mimic the way hydrochloric acid works in your stomach. Also, ask them about their favorite anti-inflammatory diet. Try cutting out refined carbs for a few weeks and chewing your food to a liquid. These and other wellness therapies are available to you. Is your hydrochloric acid low? Maybe it's time to find out.