THE TUESDAY MINUTE

IT'S TIME TO FEEL GOOD AGAIN

THIS WEEK'S TOPIC

Surprising Benefits of Berberine

"Berberine has been shown to have a significant antimicrobial activity against bacteria, fungi, parasites, worms, and viruses."

Dr. Jack Wolfson a cardiologist made an off-the-cuff statement that kind of shocked me. He said, "At the end of the day, Berberine may be the single greatest supplement that exists." That's a pretty bold statement, so I thought it would be good to review some of the newer research on Berberine and see how we can consider using it clinically.

As a reminder, Berberine is a yellow-colored alkaloid and comes from a variety of plants such as barberry, goldenseal, goldthread, Oregon grape, phellodendron, and tree turmeric.

Berberine has been shown to have significant antimicrobial activity against bacteria, fungi, parasites, worms, and viruses. In terms of bacteria, Berberine has demonstrated highly significant activity against Chlamydia, Staphylococcus, Streptococcus, Salmonella, Klebsiella, Clostridium, Pseudomonas, Proteus, Shigella, Vibrio, and Cryptococcus species. Yet even though Berberine shows effectiveness in these areas, it appears to have no effect on indigenous Lactobacilli and Bifidobacteria.

Let's pause for a minute and think about that statement, "Berberine shows antimicrobial effectiveness, yet it appears to have no effect on indigenous Lactobacilli and Bifidobacteria." A product that is effective against so many microbial factors, yet has no effect on the healthy bacteria in our microbiome. This is a product we want to remember.

Many of us are familiar with Berberine and its effect on blood sugar. Published in "Metabolism," 36 people with newly diagnosed type 2 diabetes were randomly divided into groups and assigned to take Metformin (Glucophage) or Berberine. At the study's conclusion, the average blood sugar dropped 65% in both groups. Hemoglobin A1c was reduced from 9.5% to 7.5%. The author concluded that, "Berberine helped fight diabetes every bit as effectively as Metformin." The researchers concluded that the two had "identical effects in the regulation of glucose metabolism." Since then, other studies have confirmed Berberine's effectiveness.

As a cardiologist, Dr. Wolfson was not only interested in Berberine and blood sugar but also to reduce triglycerides and cholesterol. One study

showed an 18% decrease in total cholesterol and a drop in LDL cholesterol particles by 21%.

In terms of heart health, Berberine also demonstrates anti-oxidant and anti-inflammatory properties, improves congestive heart failure, and lowers mortality in congestive heart failure patients. But some of the newer research put Berberine in another category. For example, Berberine has been shown to be effective in treating non-alcoholic fatty liver disease (NAFLD).

Kinetic studies show that Berberine metabolites are widely distributed into various tissues, including liver, heart, kidney, spleen, lung, and even brain, with the liver being the most predominant organ. Average concentration of Berberine in the liver is approximately 70-fold greater than that in plasma.

Berberine also appears to regulate the integrity of tight junctions in the gut. Wellness practitioners are familiar with the term “leaky gut.”

Here's a product that, at least in animal models, reduces toxin absorption into the blood stream when pretreated with Berberine.

Another 2016 study gives us a clue that perhaps Berberine's role in so many pathogens is its ability to affect the biofilm that protects the organism. Authors describe its use with methicillin-resistant Staphylococcus aureus infections (MRSA). “We demonstrated that sub-minimum inhibitory concentrations (MICs) of Berberine exhibited no bactericidal activity against MRSA, but affected MRSA biofilm development in a dose dependent manner. Berberine can inhibit MRSA biofilm formation and enhance bactericidal activity of antibiotics.”

Another area to watch in the future is Berberine and cancer. Of the 2,800 articles on Berberine in the last 5 years, over 500 have been on the treatment of cancer. It is one of the few compounds that is known to help activate the metabolic regulator AMPK or adenosine monophosphate-activated protein kinase. The precise mechanism whereby AMPK activation induces apoptosis or growth arrest in cancer cells is complex, and its understanding is incomplete. But authors summarize: “Basically, Berberine's antioxidant activation of AMPK turns on the process of aerobic cell growth (i.e. healthy cell growth) within the mitochondria of the cancer tumors, causing cancer cells to starve and eventually self-destruct.”

Because of its ability to activate AMPK, Berberine has attracted great attention as an alternative anti-metastasis therapy of various lines of cancers such as gastric, breast, prostate, lung, oral, bladder, colorectal, and liver cancers. Here's what researchers had to say about Berberine and advanced prostate cancer cells. “Berberine exerted inhibitory effects on the migratory and invasive abilities of highly metastatic prostate cancer cells. We concluded that Berberine should be developed as a pharmacological agent for use in combination with other anticancer drugs for treating metastatic prostate cancer.”

Biotics Research makes a 500 mg capsule called Berberine HCl. Dr. Wolfson uses Berberine for lipid and blood sugar issues at 1 bid or 2 tid for more advanced cases. As a cardiologist, he doesn't treat cancer, but if someone has an elevated PSA or history of colon polyps, he uses 2 tid.

After reading more of the research on Berberine, Dr. Wolfson's off-the-cuff comment that, “At the end of the day Berberine may be the single greatest supplement that exists.” has a lot more credibility than I thought and a supplement that I will be using a lot more of.

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