The Promise of Natural Products Against COVID-19

By Michael T. Murray, ND, Linda Woolven and Ted Snider

As the COVID-19 pandemic pushes on to even higher levels and the prospect of a massive immunization program in the near future, it is important to highlight the failure of the current medical treatment of COVID-19 and the continued lack of acceptance on the critical role that nutrition and dietary supplements play in immune health and protection against the potential devasting effects of this virus. An obvious picture has emerged when looking at the medical literature, while expensive drugs keep failing in clinical trials, inexpensive, safe and readily available vitamins, minerals and other natural products keep showing promising results.

The WHO Study on Drugs in COVID-19

Recently, a massive study conducted by the World Health Organization (WHO) showed clear results, yet got very little attention in the mainstream media. It looked at 11,266 adults in 405 hospitals in 30 countries being treated for COVID-19. The results showed "conclusive" evidence that not a single one of the drugs produced any measurable benefit for mortality or disease severity. In other words, these drugs were worthless. Even remdesivir, the first drug to be approved for COVID-19 by the FDA (U.S. Food and Drug Administration), failed to produce any measurable benefit despite its high price. Remdesivir was approved without a single double-blind study finding that it has a significant benefit on increasing the chance of surviving COVID. An American study found that remdesivir shortened recovery from 15 days to 10.

Based on the results of the WHO study along with three other controlled studies that included more than 7,000 patients, the WHO came out with an updated guideline issued on Nov. 20, 2020, recommending against the use of remdesivir as there is "no evidence that remdesivir improves survival and other outcomes."

Interestingly, for the few drugs that are showing potential benefit in improving disease severity and outcomes in COVID-19, e.g., ivermectin, are ignored, possibly because they are extremely inexpensive and widely available. Hence, there is no economic reward like that seen with higher-priced drugs like remdesivir or antibody therapy.

The Data on the Benefits of Vitamin D3 is Irrefutable

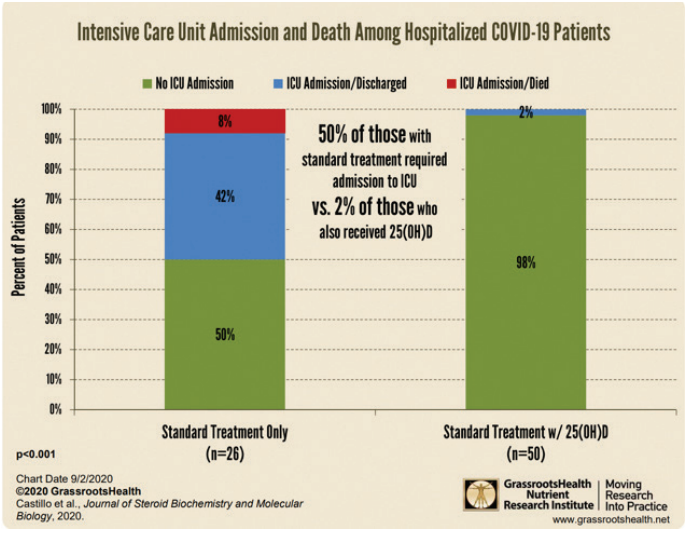
Vitamin D3 has been shown to produce a wide range of immune enhancing effects and it is now well-established that it offers important in protection against upper respiratory infections. As it relates to protection against COVID-19, a big study came out in the *Journal of the American Medical Association*. It found that people who had a vitamin D deficiency were a significant 1.77 times more likely to get COVID-19, suggesting that vitamin D plays an important role in the risk of getting COVID-19.

There is also a growing body of science that show low levels of vitamin D increase the risk for more severe COVID-19 infection and death from this viral infection. In one study, if vitamin D levels were below 20 ng/ml the mortality rate was nearly 100 percent while a level of 34 ng/ml had a 0 percent mortality rate. Many vitamin D experts recommend trying to achieve a serum 25(OH)D3 level between 50-80 ng/ mL (approx. 145-200 nmol/L), but certainly getting to at least 34 ng/ml may be critical in having the best odds of surviving COVID-19.

The latest study on vitamin D and COVID-19 enrolled 76 COVID-19 patients hospitalized in Cordoba, Spain, with symptoms of acute respiratory infection. These patients received the standard care for COVID-19, but were randomized into a vitamin D treatment group (n=50) or a control group (n=26). There were 45 men and 31 women with an average age of 53 years and a variety of comorbidities. Their goal was to determine if early intervention with the 25(OH)D form of vitamin D could improve the outcomes of a COVID-19 infection among hospitalized patients and perhaps reduce the need for them being transferred into an ICU.

The study used a different form of vitamin D than is typically used. When vitamin D3 is ingested or formed in the skin, it is taken to the liver and converted to 25-hydroxyvitamin D3. This form, also known as calcifediol, was used in this study as it is thought to be better absorbed and bypasses the need for conversion from vitamin D3 to 25(OH) D3 in the liver.

The results of the study were extremely important, as 50 percent of those with standard treatment required admission to an ICU, while only 2 percent of those getting vitamin D along with standard care required admission to an ICU. These results are extremely significant and were apparent regardless of existing comorbidities.



Why Isn't Intravenous Vitamin C Being Used in Every Case of Severe COVID-19?

Chinese hospitals have been using high dose IV vitamin C to fight COVID from almost the very beginning of the pandemic, and The WHO has identified vitamin C as one of the "adjunctive interventions with biologic plausibility," and includes it in its list of "research priorities."

A high dose IV vitamin C study published in the journal *Pulmonology* was conducted in three hospitals in China and included 56 people with severe acute respiratory syndrome from COVID-19. They were given either placebo IV or vitamin C IV (12 gram per day) for a week. Unlike the drug studied by the WHO, there was a benefit for survival. There was a nearly 50 percent reduction in 28-day mortality in the vitamin C group. While 36 percent of people on the placebo died, only 19 percent on vitamin C died. Among the most critically ill, 50 percent of the placebo group died versus 18 percent in the vitamin C group. The researchers concluded that high dose IV vitamin C "may provide a protective clinical effect without any adverse events in critically ill COVID-19 patients."

Quercetin Exerts Antiviral Actions Against SARS-CoV-2

The flavonoid quercetin exerts considerable health benefits as an important antioxidant and anti-inflammatory compound. Much of the recent research on quercetin has focused on its immune enhancing and antiviral aspects. It boosts white blood cell activity and mobilizes them to areas of infection. In human cell cultures quercetin has been shown to block the infectivity of a variety of viruses by inhibiting multiple processes in the virus life cycle. A human clinical trial in athletes showed these effects translated to quercetin reducing upper respiratory viral infections.

The excitement with quercetin as an answer to COVID-19 was initially the result of the possibility that quercetin may enhance the antiviral effects of ionic zinc. When zinc is unbound to other molecules, i.e., when it is in a free ionic state, it exerts significant action in blocking viruses from replicating. It does this action by inhibiting an enzyme produced by the virus known as replicase. This enzyme is what a virus uses in order to reproduce itself within human cells. Quercetin acts as what is known as a zinc ionophore by basically creating a channel that allows free ionic zinc to enter the infected cell and block viral replication.

The science on quercetin's anti-coronaviral activity has evolved further showing additional specific actions useful against SARS-CoV-2. In an excellent review titled "A role for quercetin in coronavirus disease 2019 (COVID-19)" a group of Italian researchers make a very strong case for quercetin's potential benefits in the prevention and treatment of COVID-19. Considerable attention was devoted to the multiple target sites of quercetin against SARS-CoV-2. Specifically, how quercetin is able to neutralize this coronavirus through detailed molecular docking studies and cell culture experiments.

One of the key aspects of the infectivity of SARS-CoV-2 is the presence of specialized proteins that allow it to bind to and then penetrate host cells to cause infection. If you have seen the illustration of what SARS-CoV-2 looks like you know that it is characterized structurally by the presence of "spikes." These spikes contain proteins that attach themselves to a type of receptor on the surface of human cells called an ACE-2 receptor. This site acts as a doorway to infection with this virus.

Quercetin exerts significant inhibition on the binding of specific spike proteins to ACE-2 receptors, thereby blocking the ability of the virus to infect human cells. Quercetin has also been shown to directly neutralize viral proteins the are critical in the replication of SARS-CoV-2. It exerts multiple sites of inhibition of the virus.

In order to reproduce the antiviral effects of quercetin based on cell culture and molecular docking studies, it

requires achieving tissue levels equal to those shown to produce these effects. In other words, the dosage of quercetin given must be able to raise the level of quercetin in body tissues so that it can effectively block the virus.

And here is where things get tricky. Regular quercetin is not absorbed very well and there is a high degree of variability from one person to the next. So, we have to look to special forms of quercetin that show enhanced absorption and reduced variability. There are three products available on the market:

- EMIQ (enzymatically modified isoquercitrin) attaches glucose chains to the quercetin molecule.
- Quercetin Phytosome binds quercetin to sunflower lecithin.
- Quercetin LipoMicel Matrix provides quercetin in a micro-emulsified form.

But even when using one of these special forms, the dosage must still produce the concentration required in body tissues. A much higher dosage is required to produce the concentration of quercetin necessary to neutralize the virus, e.g., 2,000 mg of either Quercetin Phytosome or Quercetin LipoMicel Matrix two to three times daily. And because vitamin C works so synergistically with quercetin, 500 to 1,000 of vitamin C two to three times a day as well.

N-Acetylcysteine Boosts Glutathione Levels and Exerts Other Benefits in COVID-19

A recent article published in the journal *ACS Infectious Disease* proposed that, based on "an exhaustive literature analysis, glutathione deficiency is the most plausible explanation for serious manifestation and death in COVID-19 patients." Glutathione (GSH) is a vital antioxidant and enhances the body's response to viral infection and may inhibit replication of many viruses. It also helps injury to lung cells and inflammation in people with acute respiratory distress syndrome.

One of the best supplements to boost GSH levels is N-acetylcysteine (NAC). In addition, NAC also exerts mucolytic effects to improve respiratory tract secretions. It has been used orally with great success as well as in hospitals through breathing tubes to help people dealing with inefficient or thick mucus in acute and chronic lung conditions such as emphysema, bronchitis, chronic asthma and cystic fibrosis. NAC also improves the ability of hairlike projections (cilia) on the cells that line the respiratory tract to clear mucus. Studies show NAC increases the clearance rate of mucus by 35 percent. As a result of these effects NAC, can improve the function of the lungs and respiratory tract, reduce coughing and improve the oxygen saturation in the blood when the respiratory system is being challenged.

As an antioxidant and to raise glutathione levels the dosage of NAC is usually 500 to 1,000 mg daily. To improve respiratory tract and lung function, the typical dosage is 200 to 400 mg three to four times daily. The higher dosage has shown better results.

Don't Forget the Importance of Zinc and Other Nutrients

The evidence for nutrients like zinc, vitamin A, B vitamins and selenium on immune function is enormous. All essential nutrients are essential for immunity. A deficiency of any single essential nutrient can lead to immune system dysfunction and an increased risk for infection. Several nutrients, especially zinc and vitamin A (retinol), also exerts some direct antiviral activity. It is important to hit the RDIs (recommended daily intakes) for all essential nutrients. **VR**

Comments and References

There are other natural products to consider in COVID-19, this article just summarizes some of the more well-documented dietary supplements. I want to thank Linda Woolven and Ted Snider for their help in this article. See www.thenaturalpathnewsletter.com/ for references and more information.

Michael T. Murray, ND, is widely regarded as one of the world's leading authorities on natural medicine. A graduate, former faculty member, and serves on the Board of Regents of Bastyr University in Seattle, WA, he is the author of more than 30 books on health nutrition. For more information, visit www.doctormurray.com.

Linda Woolven is a master herbalist and registered acupuncturist with a practice in Toronto, ON, Canada. Woolven and Ted Snider are the authors of several books on natural health and of The Natural Path Newsletter. You can see their books on their website: thenaturalpathnewsletter.com. If you are a retailer and would like to increase your sales and educate your customers by ordering The Natural Path for your store, email tedsnider@bell.net.

PRODUCTSPOTLIGHT

(Continued from page 37)

Z Wraps Face Masks

All face masks from Massachusetts-based Z Wrapped Products, LLC are made with two layers of the company's un-waxed, 100 percent cotton fabric. Two patterns are used for easy inside-outside identification. Ties allow for a custom fit, and masks are sized to be one-size-fits-all with ample facial coverage. Be sure to secure the ties before machine washing and drying, or launder by hand and hang dry. Each mask retails for $12.

For more information, call (413) 282-7145 or visit https://myzwraps.com.