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#### FOR IMMEDIATE RELEASE

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## Resolving "Long-Haul COVID" and Vaccine Toxicity: Neutralizing the Spike Protein

Commentary by Thomas E. Levy, MD, JD

(OMNS June 21, 2021) Although the mainstream media outlets might have you believe otherwise, the vaccines that continue to be administered for the COVID pandemic are emerging as very substantial sources of morbidity and mortality themselves. While the degree to which these negative outcomes of the COVID vaccines can be debated, there is no question that enough disease and death have already occurred to warrant cessation of the administration of these vaccines until additional, completely scientifically-based research can examine the balance between its now clear-cut side effects versus its potential (and still not yet clearly proven) ability to prevent new COVID infections.

Nevertheless, enough vaccinations have already been administered to warrant concern that a new "pandemic" of illness and death may well be emerging from the side effects that continue to be documented in steadily increasing numbers. The vaccine-induced "culprit" that is now receiving most of the attention and is the focus of much new research is the COVID virus fragment known as the spike protein. Its physiological impact appears to be doing far more harm than good (COVID antibody induction), and its manner of introduction appears to be fueling its ongoing replication with a continuing presence inside the body for an indefinite length of time.

The physical appearance of the COVID virus can be depicted as a central sphere of viral protein surrounded completely by spear-like appendages. Known as spike proteins, they are very analogous to the quills surrounding a porcupine. And just as the porcupine stabs its victim, these spike proteins penetrate into cell membranes throughout the body. After this penetration, protein-dissolving enzymes are activated, the cell membrane breaks down, the viral sphere enters the cytoplasm through this membrane breach, and the metabolism of the cell is subsequently "hijacked" to manufacture more viral particles. These spike proteins are the focus of a great deal of ongoing research examining vaccine side effects (Belouzard et al., 2012; Shang et al., 2020).

The spike protein first attaches to ACE2 (angiotensin converting enzyme 2) receptors in the cell membranes (Pillay, 2020). This initial binding step is vital to triggering the subsequent sequence of events that brings the virus inside the cell. When this binding is blocked by competition or prompt enough displacement with an appropriate therapeutic agent, the virus cannot enter the cell, the infectious process is effectively stopped, and the immune defenses of the body are freed to mop up, metabolize, and eliminate the viral pathogens, or just the spike protein alone if free and no longer attached to a viral particle.

Although ACE2 is found in many different cells throughout the body, it is especially noteworthy to realize that it is the initial target bound by coronavirus on the epithelial cells lining the airways after pathogen inhalation (Hoffmann et al., 2020). ACE2 expression (concentration) is also especially high on lung alveolar epithelial cells (Alifano et al., 2020). This cell membrane-bound virus can then begin the process that eventually results in the severe acute respiratory syndrome (SARS) seen in clinically-advanced COVID infections (Perrotta et al., 2020; Saponaro et al., 2020). The SARS presentation manifests most clearly when the degree of oxidative stress in the lungs is very elevated. This stage of COVID infection-related extreme oxidative stress is often referred to in the literature as a cytokine storm, and left unchecked this invariably leads to death (Hu et al., 2021).

Increasing concern has focused on the continued presence of the spike protein in the blood by itself, unattached to a virion, following COVID vaccination. Supposedly intended to initiate an immune response to the entire virus particle, the spike protein injections are disseminating throughout the body rather than staying put in the upper arm at the vaccine site while the immune response to it evolves. Furthermore, it also appears that these circulating spike proteins can enter cells on their own and replicate themselves without attached virus particles. This not only wreaks havoc inside those cells, it helps to assure the indefinite presence of the spike protein throughout the body.

It has also been suggested that large amounts of spike protein are just binding ACE2 receptors and not proceeding any further into the cell, effectively blocking or disabling normal ACE2 function in a given tissue. Additionally, when the spike protein binds a cell wall and "stops" there, the spike protein serves as a hapten (antigen) which can then initiate an autoimmune (antibody or antibody-like) response to the cell itself, rather than to the virus particle to which it is usually attached. Depending on the cell types to which such spike proteins bind, a wide variety of diseases with autoimmune qualities can result.

Finally, another very worrisome property of the spike protein which alone would be of great concern is that the spike protein itself appears to be highly toxic. This intrinsic toxicity, along with the apparent ability of the spike protein to replicate itself indefinitely within the cells it enters, probably represents the way in which the vaccine can inflict its worst long-term damage, as the production of this toxin can continue indefinitely without other external factors at play.

In fact, the long-haul COVID syndrome likely represents a low-grade unresolved smoldering COVID infection with the **same kind of spike protein persistence and clinical impact** as is seen in many individuals after their COVID vaccinations (Mendelson et al., 2020; Aucott and Rebman, 2021; Raveendran, 2021).

While the totality of the mechanisms involved are far from being completely understood and worked out, the increasing occurrence of post-vaccine clinical complications is nevertheless very clear-cut and must be addressed as rapidly and effectively as possible. By itself, the disruption of ACE2 receptor function in so many areas of the body has resulted in an array of different side effects (Ashraf et al., 2021). Such clinical complications being seen in different organ systems and areas of the body, can all occur in the following three clinical situations. All three are "spike protein syndromes," although the acute infection always includes the entirety of the virus particles along with the spike protein during the initial phases of the infection.

- a. in an active COVID-19 infection,
- b. during the long-haul COVID syndrome, or
- c. in response to a spike protein-laden vaccine, include the following:
  - o Heart failure, heart injury, heart attack, myocarditis (Chen et al., 2020; Sawalha et al., 2021)
  - o Pulmonary hypertension, pulmonary thromboembolism and thrombosis, lung tissue damage, possible pulmonary fibrosis (McDonald, 2020; Mishra et al., 2020; Pasqualetto et al., 2020; Potus et al., 2020; Dhawan et al., 2021)
  - o Increased venous and arterial thromboembolic events (Ali and Spinler, 2021)
  - o Diabetes (Yang et al., 2010; Lima-Martinez et al., 2021)
  - o Neurological complications, including encephalopathy, seizures, headaches, and neuromuscular diseases. Also, hypercoagulability and stroke (AboTaleb, 2020; Bobker and Robbins, 2020; Hassett et al., 2020; Hess et al., 2020)
  - o Gut dysbiosis, inflammatory bowel disease, and leaky gut (Perisetti et al., 2020; Zeppa et al., 2020; Hunt et al., 2021)
  - o Kidney damage (Han and Ye, 2021)
  - o Impaired male reproductive capacity (Seymen, 2021)
  - o Skin lesions and other cutaneous manifestations (Galli et al., 2020)
  - o General autoimmune diseases, autoimmune hemolytic anemia (Jacobs and Eichbaum, 2021; Liu et al., 2021)
  - o Liver injury (Roth et al., 2021)

In structuring a clinical protocol to stop the ravages of persistent spike protein presence throughout the body, it is first important to realize that the protocol should be able to effectively treat any aspect of COVID infection, including those periods during active infection, after "active" infection (long-haul COVID), and during ongoing spike protein presence secondary to either "chronic" COVID infection or resulting from COVID vaccine administration.

As is the case with any treatment for any condition, factors of expense, availability, and patient compliance always play a role in determining what treatment a given patient will actually undergo for a given period of time. As such, no one specific protocol will be appropriate for all patients, even if the same pathology is present. Ideally, of course, the best protocol is to use all of the options discussed below. When the entirety of the protocol is not possible or feasible, which is most often the case, the combination of HP nebulization, high-dose vitamin C, and appropriately-dosed ivermectin is an excellent way to effectively address long-haul COVID and persistent spike protein syndromes.

Much of the rationale of the protocols is based on what is known about the spike protein and how it appears to inflict its harm. The following aspects of spike protein pathophysiology need to all be considered in crafting an optimal treatment protocol:

- The ongoing production of spike protein by the vaccine-supplied mRNA into the cells for the purpose of stimulating the production of neutralizing antibodies (Khehra et al., 2021)
- The binding of the spike protein, with or without an attached virion, to an ACE2 binding site on the cell wall, as an initial step to dissolving that portion of the cell wall, permitting the spike protein (and attached virus particle if present) into the cell
- The binding of the spike protein to an ACE2 binding site, but just **remaining bound** to that site and not initiating enzymatic degradation of the cell wall, with or without an attached virion

- The degree to which circulating spike protein is present in the blood and actively disseminating throughout the body
- The fact that the spike protein by itself is toxic (pro-oxidant in nature) and capable of generating disease-generating oxidative stress throughout the body. This is addressed most directly by persistent and highly-dosed vitamin C.

### Therapeutic Agents and Their Mechanisms

A substantial number of agents have already been found to be highly effective in resolving COVID infections, and even more are continuing to be discovered as worldwide research efforts have so intensely focused on curing this infection (Levy, 2020). Some of the most effective agents and their mechanisms of actions include the following:

1. **Hydrogen peroxide (HP) nebulization.** Correctly applied, this treatment eliminates acute COVID pathogen presence and any other chronic pathogen colonizations persisting in the aerodigestive tract. Also, a positive healing effect on the lower digestive tract is typically seen, as less pathogens and their associated pro-oxidant toxins are chronically swallowed. Stunning anecdotal evidence has already been seen documenting the ability of HP nebulization to cure even advanced COVID infections (20 of 20 cases) as a monotherapy. (Levy, 2021). All of the supporting research, scientific analysis, and practical suggestions on this therapy is available as a free eBook download [**Rapid Virus Recovery**] (Levy, 2021).
2. **Vitamin C.** Vitamin C works synergistically with HP in eradicating pathogens. It gives strong general immune support, while working to support the optimal healing of damaged cells and tissues. Clinically, it is the most potent antioxidant ever described in the literature, and no reports of it failing to neutralize any acute intoxication when administered appropriately have been published. Continuing persistent and highly-dosed vitamin C in all its forms will prove to be the **most useful intervention** when there is a large amount of circulating toxic spike protein present. Intravenous, regular oral forms, and liposome-encapsulated oral forms are all very useful in resolving any infection and neutralizing any toxin (Levy, 2002). There is also a polyphenol-based supplement that appears to allow some humans to synthesize their own vitamin C, which could prove to be of enormous protective and healing capacity with COVID patients and vaccine recipients. (<https://formula216.com/>).
3. **Ivermectin.** This agent has powerful antiparasitic and antiviral properties. Evidence indicates that ivermectin binds the ACE2 receptor site that the spike protein needs to bind to proceed with entry into the cell and the replication of viral protein (Lehrer and Rhoenstein, 2020; Eweas et al., 2021). Also, under some circumstances, the binding of the spike protein to the ACE2 receptor does not activate the enzymes needed to enter the cell. Possibly, ivermectin **might also competitively displace** such bound spike protein from the cell walls as well when a sufficient dose is taken. It also appears that circulating spike protein can be bound up directly by ivermectin, rendering it inactive and making it accessible for metabolic processing and excretion (Saha and Raihan, 2021). Where there has been mass administration of ivermectin for parasitic diseases in Africa there has also been noted a significantly lower incidence of COVID-19 infection (Hellwig and Maia, 2021). Ivermectin is also very safe when administered appropriately (Munoz et al., 2018).
4. **Hydroxychloroquine (HCQ) and Chloroquine (CQ).** Both HCQ and CQ have been shown to be very effective agents in resolving acute COVID-19 infections. They have also both been shown to be zinc ionophores that can increase intracellular zinc levels which can then inhibit the enzyme activity needed for viral replication. However, both HCQ and CQ have also been found to block the binding of COVID virus spike proteins to the ACE2 receptors needed to initiate viral entry into the cells, giving scientific support for their utility as more directly interfering with spike protein activity before the virus ever breaches the cell (Fantini et al., 2020; Sehalia and Chemat, 2020; Wang et al., 2020).
5. **Quercetin.** Similar to HCQ and CQ, quercetin also serves as a zinc ionophore. And like HCQ and CQ, quercetin appears to also work to block the binding of COVID virus spike proteins to the ACE2 receptors, impairing spike protein-virus entry into the cell, or impairing spike protein alone from entering the cells (Pan et al., 2020; Derosa et al., 2021). Many other phytochemicals and bioflavonoids are demonstrating this ACE2 binding capacity as well (Pandey et al., 2020; Maiti and Banerjee, 2021).
6. **Other Bio-Oxidative Therapies.** These include ozone, ultraviolet blood irradiation, and hyperbaric oxygen therapy (in addition to hydrogen peroxide and vitamin C). These three therapies are highly effective in patients with acute COVID infections. It is less clear how effective they would be for long-haul COVID syndrome and patients suffering from ongoing vaccine-generated spike protein syndromes. That is not to say, however, that all three would not prove to be just as excellent for dealing with the spike protein as with the intact virus. It just remains to be determined.
7. **Baseline Vital Immune Support Supplementation.** There are definitely hundreds, and perhaps thousands, of quality vitamin, mineral, and nutrient supplements that are all capable of making some contribution to reaching and maintaining optimal health, while minimizing the chances of contracting any kind of infectious disease. A baseline regimen of supplementation that factors in expense, overall health impact, and convenience should include vitamin C, vitamin D3, magnesium chloride (other forms good, but chloride form optimal for antiviral impact), vitamin K2, zinc, and an iodine supplement, such as Lugol's solution or iodoral. More specific guidance in dosing can be found in Appendix A of **Hidden Epidemic**, also available as a free eBook download (Levy, 2017). Specifics on mixing up a solution of magnesium chloride for regular supplementation are also available (Levy, 2020).

[More detail on the therapeutic agents above is available in Chapter 10 of **Rapid Virus Recovery**]

The suggested optimal way to deal with acute COVID that has evolved into long-haul COVID, or with symptoms consistent with the toxic effects of circulating spike protein post-vaccination, is to always eliminate any active or chronic areas of pathogen proliferation with HP nebulization. Vitamin C supplementation should be optimized at the same time. 50-gram infusions of sodium ascorbate should be administered at least several times weekly as long as there is symptomatology attributable to long-haul COVID and circulating spike protein. Initially, a 25-gram infusion of sodium ascorbate given three times a day should prove to be even more effective as circulating vitamin C is rapidly excreted. Oral vitamin C supplementation should be taken as well, either as several grams of liposome-encapsulated vitamin C daily, or as a teaspoon of sodium ascorbate powder several times daily. One capsule daily of Formula 216 can be added to this as well.

With the "foundation" of HP nebulization and vitamin C supplementation in place, the best prescription medicines to counter long-haul COVID and circulating spike protein would be with ivermectin first, and then HCQ or HQ if the clinical response is not acceptable. Dosages would need to be determined by the prescribing physician.

Along with the baseline immune support supplements noted above, quercetin, 500 to 1,000 mg daily, should be added as well.

**Any and all of the above recommendations should be undertaken with the guidance of a trusted physician or other appropriately-trained health care professional.**

### Recap

Even as the COVID pandemic appears to be slowly subsiding, many individuals are now chronically ill with long-haul COVID and/or with the side effects of a COVID vaccination. It would appear that both clinical situations are primarily characterized by persistent presence of the spike protein and its negative impact on different tissues and organs.

Treatment is aimed at neutralizing the direct toxic impact of spike protein, while working to block its ability to bind the receptors needed to hijack the metabolism of the cell into making new viruses and/or more spike protein. At the same time, treatment measures are taken to assure that there is as complete an elimination of active or smoldering COVID infection remaining in the patient.

*The views expressed in this article are the author's and not necessarily those of the Orthomolecular Medicine News Service or all members of its Editorial Board. OMNS invites alternative viewpoints. Submissions may be sent directly to Andrew W. Saul, Editor, at the email contact address further below.*

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