

Letter to the Editor: The Pundit Speaks

By Randolph M. Howes, M.D., Ph.D.

March 29, 2020

“Coronavirus (COVID-19) Special Points of Interest”

First, what is a virus and is it alive? Viruses are not “alive” but can be considered pseudo-alive because they require a host cell to begin to function. They use DNA or RNA to pass information to the next round of viruses their host cells make for them. Once inside us, a virus literally hijacks the genetics of our cells. A virus needs to get its genetic material, called a viral genome, into the host cell. This is either DNA or RNA, and for COVID-19 it’s RNA. Then it uses the machinery of the cell to make viral proteins and more copies of itself. Some scientists use benign viruses to carry modified genes to targeted cells as a way of doing gene therapy. A virus usually enters the cell through a protein our cells have on their surface. COVID-19—and SARS before that—use a protein called ACE2, which is on the surface of the cells in our lung, throat and intestinal tract. The COVID-19 virus is a ball with a protein called the spike protein that sticks out all around the virus and looks like a solar corona or a king’s crown. Coronaviruses only infect mammals and birds and there were six that could infect humans before COVID-19. Four cause mild symptoms, like a cold and COVID-19 is the seventh coronavirus and the deadliest by far. Our bodies have not been exposed to it before and have no immunity towards it. Our cells are duped into becoming a slave to the virus. The viral proteins assemble into new “baby viruses.” Viruses have evolved mechanisms to evade this invasion as being foreign, such as coating their proteins with glycans, essentially complex carbohydrate molecules that are much harder for our immune system to recognize as foreign. HIV, the AIDS virus, is really good at hiding that way. In some cases, our bodies begin to launch an immune response but that can also have both good and bad consequences. My best advice is to try to avoid getting the virus by social distancing and frequent hand washing. There has been confusion on whether we should or shouldn’t take ibuprofen (Advil) to treat symptoms of COVID-19. As of March 19, 2020 the WHO now does not recommend avoiding ibuprofen to treat COVID-19 symptoms. At the moment, the NHS only recommends taking paracetamol (Tylenol) for COVID-19 symptoms, even though it admits there is no strong evidence showing ibuprofen worsens symptoms. *The BMJ* also states that ibuprofen should be avoided when managing COVID-19 symptoms. NSAIDs shouldn’t be given to children infected with viruses.

In the America that I love, we are more at risk of killing America economically, than of being killed by the virus.

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