

## SARS-COV-2 Has One Big Trick – Have We Just Discovered It?

By Shlomo Maital



According to the India Times' Economic Times: SARS-COV-2 virus has one big trick – and it may be that scientists have just figured out what it is.

“It looks like this virus has one big trick,” said Shane Crotty, a professor in the Center for Infectious Disease and Vaccine Research at the La Jolla Institute for Immunology in California. “That big trick is to avoid the initial innate immune response for a significant period of time and, in particular, avoid an early type-1 interferon response.”

According to the India Times: The work highlights the potential for interferon-based therapies to enlarge a slowly accumulating range of Covid-19 treatments. These include Gilead Sciences' remdesivir and convalescent plasma, a component of the blood of recovered patients that may contain beneficial immune factors. These treatments provide limited benefit and are typically used in very sick, hospitalised patients. The possibility that interferon may help some people is enticing because it appears most efficacious in the early stages of infection when life-threatening respiratory failure could still be averted. Dozens of studies of interferon treatment are now recruiting Covid-19 patients.

How did the scientists figure this out? Here is the story:

When two brothers fell critically ill with Covid-19 around the same time in March, their doctors were baffled. Both were young — 29 and 31 years old — and healthy. Yet within days they couldn't breathe on their own and, tragically, one of them died. Two weeks later, when a second pair of Covid-stricken brothers, both in their 20s, also appeared in the Netherlands, geneticists were called in to investigate. What they uncovered was a path leading from severe cases, genetic variations and gender differences to a loss of immune function that may ultimately yield a new approach to treating thousands of coronavirus patients. The common thread in the research is the lack of a substance called interferon that helps orchestrate the body's defence against viral pathogens and can be infused to treat conditions such as infectious hepatitis. Now, increasing evidence suggests that some Covid-19 patients get very ill

**because of an impaired interferon response. Landmark studies published on Thursday in the journal Science showed that insufficient interferon may lurk at a dangerous turning point in SARS-CoV-2 infections.**

**See also:**

**“Impaired type I interferon activity and inflammatory responses in severe COVID-19 patients” Science 07 Aug 2020: Vol. 369, Issue 6504, pp. 718-724**