

THE BEST OF THE WEEK (29 mag – 04 giu 2023)

M. Daniel Brannock et al

Long COVID risk and pre-COVID vaccination in an EHR-based cohort study from the RECOVER program

Nature, May 2023; doi.org/10.1038/s41467-023-38388-7

Abstract

Long COVID, or complications arising from COVID-19 weeks after infection, has become a central concern for public health experts. The United States National Institutes of Health founded the RECOVER initiative to better understand long COVID. We used electronic health records available through the National COVID Cohort Collaborative to characterize the association between SARS-CoV-2 vaccination and long COVID diagnosis. Among patients with a COVID-19 infection between August 1, 2021 and January 31, 2022, we defined two cohorts using distinct definitions of long COVID—a clinical diagnosis (n = 47,404) or a previously described computational phenotype (n = 198,514)—to compare unvaccinated individuals to those with a complete vaccine series prior to infection. Evidence of long COVID was monitored through June or July of 2022, depending on patients' data availability. We found that vaccination was consistently associated with lower odds and rates of long COVID clinical diagnosis and high-confidence computationally derived diagnosis after adjusting for sex, demographics, and medical history.

RubeshanPerumal et al

Biological mechanisms underpinning the development of Long COVID

Cell, May 2023; doi.org/10.1016/j.isci.2023.106935

Abstract

As COVID-19 evolves from a pandemic to an endemic disease, the already staggering number of people that have been or will be infected with SARS-COV-2 is only destined to increase, and the majority of humanity will be infected. It is well understood that COVID-19, like many other viral infections, leaves a significant fraction of the infected with prolonged consequences. Continued high number of SARS-CoV-2 infections, viral evolution with escape from post-infection and vaccinal immunity, and reinfections heighten the potential impact of Long COVID. Hence, the impact of COVID-19 on human health will be seen for years to come until more effective vaccines and pharmaceutical treatments become available. To that effect, it is imperative that the mechanisms underlying the clinical manifestations of Long COVID be elucidated. In this article, we provide an in-depth analysis of the evidence on several potential mechanisms of Long COVID and discuss their relevance to its pathogenesis.