COVID survivors at increased risk of long-term gastrointestinal conditions

Although people with severe COVID had highest risk, mild cases also upped risks.

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Surviving a bout of COVID-19 can significantly increase the risk of developing a range of long-term gastrointestinal symptoms and conditions—from constipation and diarrhea to chronic acid reflux, pancreatitis, and inflammation of the bile ducts—according to a study published this week in Nature Communications.

The study likely confirms what many long COVID patients already know all too well. But the analysis is among the largest and most comprehensive to evaluate the boost in relative and absolute risks, drawing on medical records from more than 11,652,484 people in the Department of Veterans Affairs databases.

The study was led by clinical epidemiologist Ziyad Al-Aly at the VA Saint Louis Health Care System in Saint Louis. With colleagues, Al-Aly examined medical records of over 154,000 people who had COVID-19 between March 2020 and January 2021. The researchers then compared the COVID survivors' rates of gastrointestinal problems in the year after their infection to the rates seen in two control cohorts. One was a contemporary cohort of over 5.6 million people who went from March 2020 to January 2021 without any evidence of a COVID-19 infection. The other was of 5.8 million people who were tracked for a year before the pandemic, which served as a control for unreported COVID-19 cases in the contemporary cohort.

The researchers found increased relative risks and absolute risk—in the form of the excess burden of disease per 1,000 people—for a range of pre-identified gastrointestinal conditions and symptoms. Compared to the control groups, COVID-19 survivors had more constipation, diarrhea, abdominal pain, vomiting, and bloating in the year after their infection.

Burden

Survivors also had a 35 percent higher risk than controls of developing GERD (gastroesophageal reflux disease), with an excess burden of 15.5 cases extra per 1,000 compared to control groups. Risk of inflammation of bile ducts (cholangitis) doubled but was still rare, with an excess burden of just 0.22 cases. Survivors also had a 62 percent higher risk of peptic ulcer disease, with an excess burden of 1.57 cases, and a 54 percent higher risk of irritable bowel syndrome, with an excess burden of 0.44 cases. Altogether, COVID survivors had a 37 percent higher risk of developing any gastrointestinal condition, with an excess burden of 17.37 cases.

The researchers didn't look at underlying health conditions that might be linked to those higher risks, but they noted that the more severe a patient's COVID case, the higher the risk of long-term gastrointestinal problems. In other words, those who were in the intensive care unit with COVID had the highest risks, followed by those who were hospitalized, and then those who were not hospitalized. That said, people who were not hospitalized still bore increased risk across the range of conditions evaluated compared with controls.

As with other forms of long COVID, which can wreak havoc on many parts and systems of the body, it's unclear how the viral infection leads to gastrointestinal problems in the year after infection. Researchers have hypothesized that there may be a persistent virus in some select areas of the body. There also could be disruption to the gut microbiome, tissue injury, autoimmune mechanisms, or chronic inflammation. Some immunology studies have suggested that people with long COVID may experience a dangerous combination of persistent immune responses to lingering SARS-CoV-2 antigen, reactivation of herpesviruses (such as Epstein-Barr, which causes mono), and chronic inflammation. But for now, researchers don't have a full grasp of the condition.

It's also unclear who is at risk for developing long-term problems after COVID-19. Although studies have shown that vaccination can reduce the risk of long COVID, it doesn't appear to completely eliminate risk, nor does prior infection. And a person's risk may change with time since their last vaccination/infection and, potentially, different SARS-CoV-2 variants. In the current study, the timeframe of the examined COVID cases was largely before the widespread distribution of vaccines, making it impossible for the researchers to assess the effects of vaccination on risks.

"Altogether the evidence base reinforces the need for continued emphasis on primary prevention of SARS-CoV-2 infection (and prevention of reinfection) as the foundation of the public health response," Al-Aly and his colleagues concluded. "Woven together with the evidence amassed thus far on the scale and breadth of organ dysfunction in Long COVID, the findings in this report call for the urgent need to develop strategies to prevent and treat the post-acute sequelae of SARS-CoV-2 infection."

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