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Variant behind infection may determine long COVID -19 symptoms

The Korea Times · 4 Apr 2022 · 11

New variants of the virus that causes COVID-19 may generate different “long COVID” symptoms than earlier strains of the virus, research presented Thursday during the European Congress of Clinical Microbiology and Infectious Diseases found.



Between June 2020 and June 2021, the most common symptoms among people with “long COVID” were shortness of breath and chronic fatigue. Sleep and vision problems and brain fog were next in line, the researchers said during the meeting in Lisbon, Portugal.

However, when the Alpha variant, first identified in England in September 2020, was the dominant strain, muscle aches and pain, insomnia, anxiety and depression also were common, the data showed. Conversely, with the original strain of the virus, which first appeared in Wuhan, China, at the end of 2019, loss of sense smell, difficulty swallowing and hearing loss were among the more common symptoms, according to the researchers.

The findings suggest that the symptoms connected to long COVID could be different in people who are infected with different variants, they said.

“Many of the symptoms reported in this study have been measured, but this is the first time they have been linked to different COVID-19 variants,” study co-author Michele Spinicci said in a press release. “The long duration and broad range of symptoms reminds us that the problem is not going away, and we need to do more to support and protect these patients in the long term,” said Spinicci, a researcher in experimental medicine at the University of Florence in Italy.

As many as half of those who recover from their initial bout with COVID-19 experience post-acute sequelae of COVID-19, or long COVID, research suggests.

The condition affects people regardless of age, overall health and severity of infection, studies have found.

Long-term symptoms appear to have lasting effects on brain, heart and lung function, based on available data.

For this study, Spinicci and his colleagues assessed 428 patients, 254 men and 174 women, treated at the Careggi University Hospital’s post-COVID outpatient service between June 2020 and June 2021.

This was during the period in which the Alpha variant was the most common one in circulation in Italy, the researchers said.

All of the patients in the study had been hospitalized with COVID-19 and discharged four to 12 weeks before attending a clinical visit at the outpatient service and completing a questionnaire on persistent symptoms, the researchers said.

In addition, data on patients' medical history, COVID-19 severity and demographic information were obtained from their electronic medical records, according to the researchers.

Of the patients included in the study, 325, or 76 percent, reported at least one persistent symptom of the virus, the data showed.

Among those with persistent symptoms, 37 percent had shortness of breath and 36 percent had chronic fatigue, while 16 percent had sleep problems and 13 percent had trouble with their vision, the researchers said.

In addition, 13 percent reported "brain fog," or attention and focus problems, according to the researchers.

People who suffered more severe COVID-19 initially were six times more likely to report long COVID symptoms, while those who received oxygen support while in the hospital were 40 percent more likely to do so, the data showed.

Women were almost twice as likely as men to report symptoms of long COVID, while people with Type 2 diabetes were at lower risk, the researchers said.

In the latter part of the study period when the Alpha variant was the dominant strain in Italy, about 10 percent of long COVID patients reported muscle aches and pain, while 15 percent had insomnia, 16 percent had brain fog and 13 percent had anxiety and/or depression, according to the researchers.

Only 2 percent of these patients reported loss of sense of smell, 4 percent had difficulty in swallowing and 1 percent had hearing loss, they said.

However, during the first half of the study, when the Wuhan strain still was the dominant one in Italy, 13 percent of long COVID patients had loss of sense of smell, 11 percent had difficulty swallowing and 6 percent reported hearing loss, the data showed.

About 6 percent of those likely infected with the Wuhan strain experienced anxiety and/or depression and 10 percent had brain fog, the researchers said.

Still, the researchers were unable to confirm which patients were infected with each variant, which may limit the conclusions that can be drawn from the results, they said.

"Future research should focus on the potential impacts of variants of concern and vaccination status on ongoing symptoms," Spinicci said.