

## One in two cancer patients may develop long COVID, with risk higher in women

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More than one in two cancer patients at a US cancer center experienced symptoms of long COVID-19 for more than six months after initial infection, according to a study published today in *eLife*.



The findings are comparable to reported incidence of long COVID-19 in the <u>general population</u> but also show that women undergoing <u>cancer</u> <u>treatment</u> seem at higher risk than men.

In the general population, reports of the prevalence of long COVID-19—also known as post-acute sequelae of SARS-CoV-2 infection (PASC)—vary from 10% to 87%, with symptoms persisting beyond 30 days in <u>patients</u> who had severe initial COVID-19 symptoms or were hospitalized.

"Although <u>cancer patients</u> fall into a higher COVID-19 risk group there is limited data on PASC in cancer patients and how it affects their progression, care and treatment," says lead author Anne-Marie Chaftari, Associate Professor, Department of Infectious Diseases, the University of Texas MD Anderson Cancer Center, Texas, US. "In order to provide a better understanding of post-COVID-19 management among cancer patients, we sought to characterize the patterns of long COVID-19 specifically in these patients."

The team identified patients receiving care at the University of Texas MD Anderson Cancer Center who were diagnosed with COVID-19 between March and September 2020 and followed their progress for up to 14 months via remote <a href="mailto:symptom">symptom</a> monitoring and their usual hospital visits. Questionnaires were sent out to patients daily for 14 days after initial COVID-19 diagnosis, then weekly for three months, and monthly thereafter.

Patients were asked to record symptoms including fatigue, cough, chest tightness, difficulty breathing, headache, fever, altered sense of smell or taste, muscle aches, gastrointestinal (GI) symptoms, sleep disturbance and any limitations with activities of daily living. Long COVID-19 was defined as COVID-19-related symptoms persisting beyond 30 days of diagnosis or the emergence of new COVID-19 symptoms.



They collected data for 312 cancer patients, of whom 188 (60%) developed long COVID-19. Those who had relapsed or had treatment-resistant cancer at baseline, or those who had more severe acute COVID-19 infections, were less likely to develop long COVID-19. They found that female cancer patients had a higher rate of long COVID-19 compared with male cancer patients (63% versus 51%).

There was otherwise no difference in the characteristics of patients who developed long COVID-19 and those who did not—<u>risk factors</u> such as depleted <u>white blood cells</u>, needing oxygen, being hospitalized for COVID-19 or multi-organ failure were similar in both groups. The most common long COVID-19 symptoms were fatigue, sleep disturbances, muscle pain and GI symptoms.

One discovery the authors found intriguing was that patients with <u>high</u> <u>blood pressure</u> (BP) were less likely to develop long COVID-19. This was surprising given that high BP is a known risk factor for more severe acute COVID-19, but a similar finding was also seen in another study of long-COVID-19 in <u>immunocompromised patients</u>.

The link between BP and risk of severe acute COVID-19 is thought to be due to the binding of the COVID-19 spike protein to angiotensin-converting enzyme 2 (ACE-2), the target of many BP-lowering drugs. These findings might rule out this mechanism being important for the development of long COVID-19.

Among the 188 cancer patients who developed long COVID-19, 59 patients (31%) were readmitted to hospital, but only 16 patients (8.5%) were readmitted for COVID-19-related reasons, with most having symptoms that could be managed by outpatient care.

"Our study found that long COVID-19 occurred in the majority of our cancer patients and was more prevalent in women than men," concludes



senior author Issam Raad, endowed distinguished chair and professor in the Department of Infectious Diseases, the University of Texas MD Anderson Cancer Center. "Even in this high-risk patient population, long COVID-19 was not associated with a high rate of hospital admissions. We also found no underlying condition or severity of illness during acute COVID-19 that would predict long COVID-19."

**More information:** Hiba Dagher et al, Long COVID in cancer patients: preponderance of symptoms in majority of patients over long time period., *eLife* (2023). DOI: 10.7554/eLife.81182

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