

Most children with cancer have mild COVID-19 and make full recovery

November 9 2021

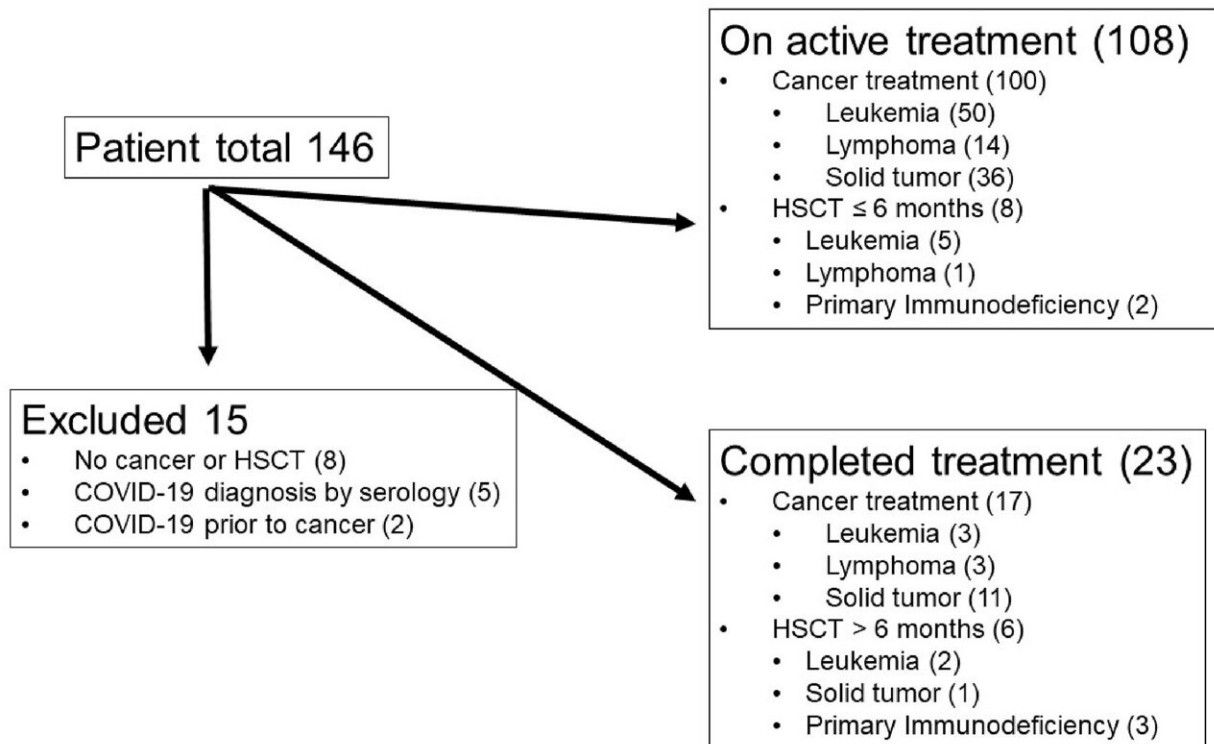


Fig. 1. Consort diagram on patients included in the registry and analyzed. HSCT, haematopoietic stem cell transplantation. Credit: DOI: 10.1016/j.ejca.2021.09.027

Most children and adolescents with cancer have mild COVID-19 disease and make a full recovery, a new study has found. But pediatric cancer patients with underlying health conditions, severe infections and low

white blood cell counts were significantly more likely to have severe disease.

The study, led by the Murdoch Children's Research Institute (MCRI), Peter MacCallum Cancer Centre and Goethe University in Frankfurt, which provides new insights into COVID-19 disease severity, duration of shedding, symptoms and outcomes in [children](#) with cancer, will help inform treatment decisions.

The research, published in the *European Journal of Cancer*, involved 131 children aged under 19 years with COVID-19 across 10 countries including Australia, Germany, Brazil and Canada. The participants either had a diagnosis of cancer or had undergone a bone marrow stem cell transplant.

MCRI and Peter MacCallum Cancer Centre Associate Professor Gabrielle Haeusler said there was limited data before this study on SARS-CoV-2 infection in children with cancer or stem cell transplants.

The study reported a third of patients were asymptomatic with 47 percent overall having mild cases, 8 percent moderate cases, 4 percent severe and 9 percent critical. It found 37 percent were hospitalized, 11 percent required ICU care and four died due to COVID-19. But in 95 percent of cases the patients made a full recovery.

Associate Professor Haeusler, also a physician at The Royal Children's Hospital, said increased COVID-19 severity in children with cancer was detected in those with co-morbidities, severe infections (mostly bacterial co-infections) and low white blood cell counts, a marker of immune suppression, emphasizing the need for a heightened awareness among healthcare staff.

For patients on active treatment, chemotherapy was delayed or doses

were modified in a third of cases. Importantly, changes in treatment were not significantly associated with a reduced risk of severe COVID-19. There was no difference in the proportion of patients with symptomatic infection who were having cancer treatment and those had completed treatment.

The most frequent COVID-19 symptoms were fever, cough, runny nose and gastro. The median duration of virus detection in the patients was 16 days. However, the virus was detected up to 80 days after initial infection in some patients.

Goethe University Professor Thomas Lehrnbecher said the COVID-19 pandemic had posed great challenges for patients with cancer.

"While data emerged early in the pandemic about the increased risks of worse outcomes and death for adult cancer patients with COVID-19, the impact of the disease in children with cancer was less clear," he said

"An understanding of the impact of COVID-19 in children with cancer is critical to informing pediatric care pathways including modifying chemotherapy regimens and isolation restrictions."

Children over 12 years with cancer or a history of [cancer](#) are a priority group for an mRNA COVID-19 vaccine.

Associate Professor Haeusler said while the study identified some predictors of severe illness, prevention was still our best defense.

"We found most COVID-19 transmissions occurred within the family home. In addition to the vaccination of treating healthcare workers, vaccination of household and regular family contacts against COVID-19 is a crucial protective measure," she said.

"Ongoing surveillance is also critical to monitor vaccine efficacy and impact of emerging COVID-19 variants in this vulnerable population."

More information: Gabrielle M. Haeusler et al, SARS-CoV-2 in children with cancer or after haematopoietic stem cell transplant: An analysis of 131 patients, *European Journal of Cancer* (2021). [DOI: 10.1016/j.ejca.2021.09.027](https://doi.org/10.1016/j.ejca.2021.09.027)

Provided by Murdoch Children's Research Institute

Citation: Most children with cancer have mild COVID-19 and make full recovery (2021, November 9) retrieved 8 May 2024 from <https://medicalxpress.com/news/2021-11-children-cancer-mild-covid-full.html>

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