



# Clinical Profile of COVID-Positive Cancer Children across Three COVID Waves: A Tertiary Care Center's Experience

Latha M. Sneha<sup>1</sup> Reshma Shanmugam<sup>2</sup> Julius Xavier Scott<sup>3</sup> Dhaarani Jayaraman<sup>3</sup>

<sup>1</sup>Division of Pediatric Hemato-Oncology, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India

<sup>2</sup>Department of Pediatric Medicine, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India

<sup>3</sup>Division of Pediatric Hematology and Oncology, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India

Address for correspondence Latha M. Sneha, MD, Division of Pediatric Hemato-Oncology, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai 600 116, Tamil Nadu, India (e-mail: drmslatha@yahoo.com).

Ind J Med Paediatr Oncol 2022;43:296–297.

Though coronavirus disease 2019 (COVID-19) infection prevalence among adult cancer patients was reported to be higher than the general population, it was found that children with cancer were less infected and were mostly asymptomatic or mildly infected.<sup>1</sup> We conducted a prospective study of incidence and outcomes of COVID positivity among children with malignancies admitted between March 2020 and February 2022.

All children < 18 years of age with malignancies admitted in this period were included. Institutional ethics committee approval was obtained. All patients underwent COVID testing by reverse transcription polymerase chain reaction method, prior to every admission.

A total of 1,962 admissions were made during this period. Twenty-eight children (1.4%) were found to be COVID positive and 4 of them were newly diagnosed acute leukemia at the time of COVID positivity. Among the 28 children, 14 were acute leukemias, 3 had lymphomas, and 11 had solid tumors. Only 4 (14.2%) of them were symptomatic with fever and upper respiratory infection symptoms. Twenty-two children were managed in home quarantine. Six of the 28 (21.4%) children needed admission. Among the six, three were newly diagnosed leukemias, one was admitted for social reason, one child with intracranial germ cell tumor needed monitoring due to primary disease-mediated hyponatremia and polyuria, and one child was admitted for neutropenia and severe mucositis.

Computed tomography chest was done only in the newly diagnosed acute leukemias prior to starting steroids. No

imaging studies or COVID-specific blood investigations like D-dimer were done in the rest of them. Chemotherapy was delayed for all COVID-positive children for an average period of 7 to 10 days. None of our children received COVID infection-directed medications. None of the children with COVID positivity developed any complications related to COVID or primary disease or their treatment. All of them recovered completely. Only one child was monitored in the intensive care unit for 24 hours for febrile neutropenia with features of early shock. No long-term sequelae were reported in any of them till this date. Among the 28 children, 11 were positive during the first wave, 6 during the second wave, and 11 turned positive during third wave.

Bansal et al have reported that a higher number of children and adolescents were affected during the second wave in India and were symptomatic with fever, diarrhea, cold, and cough when compared with the first wave.<sup>2</sup> Iftimie et al from Spain and Brookman et al from London also have reported a high prevalence of infections among children and young people but they were not associated with any severe illness or any complications, similar to the first wave.<sup>3,4</sup> We reported the lowest number of COVID positivity during the second wave and two of the six were symptomatic during this period. The highest number of positive cases was actually seen during the third wave, when we had 11 positivity in 4 months, whereas during the first wave, 11 children were positive during a period of 9 months. This study supports

DOI <https://doi.org/10.1055/s-0042-1750203>.  
ISSN 0971-5851.

© 2022. Indian Society of Medical and Paediatric Oncology. All rights reserved.

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

that children with cancer when infected with COVID do not warrant additional COVID-directed investigations, imaging studies, or therapy if they are asymptomatic or present with milder infections. All the 28 children were followed up for a period ranging from 2 years to 2 months (during the third wave). Our study is very encouraging for developing countries with limited resources for supportive care to continue cancer-directed treatment for children with cancer without unnecessary interruptions.

#### Funding

None.

#### Conflict of Interest

None declared.

#### Presented in Conferences

None.

#### References

- 1 Hrusak O, Kalina T, Wolf J, et al. Flash survey on severe acute respiratory syndrome coronavirus-2 infections in paediatric patients on anticancer treatment. *Eur J Cancer* 2020;132:11–16
- 2 Bansal M, Sachdev M, Chakraborty S, Dua V. Second wave of COVID-19—not a matter of great concern for pediatric hematologist/oncologist. *Ped Hematol Oncol J* 2022;07(02):41–44
- 3 Iftimie S, López-Azcona AF, Vallverdú I, et al. First and second waves of coronavirus disease-19: a comparative study in hospitalized patients in Reus, Spain. *PLoS One* 2021;16(03):e0248029
- 4 Brookman S, Cook J, Zucherman M, Broughton S, Harman K, Gupta A. Effect of the new SARS-CoV-2 variant B.1.1.7 on children and young people. *Lancet Child Adolesc Health* 2021;5(04):e9–e10