

RECOV-Brasil: COVID-19 in children undergoing cancer treatment or HSCT in Brazil

Mariana Corso¹, Ciliana Rechenmacher², Victor Jablonski², Rebeca Marques³, Liane Daudt², and Mariana Michalowski³

¹UFRGS

²Universidade Federal do Rio Grande do Sul

³Hospital de Clinicas de Porto Alegre

July 7, 2020

Brazil is the largest country in South America with continental dimensions and significant regional differences. Recently, the country has faced a great challenge in establishing adequate strategies to mitigate the strong impact caused by the arrival of COVID-19 in the national territory. Since the first case diagnosed on February 26th, 2020, we have gone through a 18 week period that resulted in 58.300 deaths and more than 1.370.000 confirmed cases¹. Despite having a public and universal health system, most pediatric oncology centers are located in more urbanized regions, such as state capitals or economic centers. Few reports describe the impact of SARS-CoV-2 on the population of pediatric patients accompanied by cancer or undergoing hematopoietic stem cell transplantation (HSCT)^{2,3,4}. Less frequent still are the descriptions of the situation of these children in low or middle income countries⁵. Faced with this new and unknown scenario, the present study aims to describe the clinical presentation and the evolution of children affected by COVID-19 undergoing treatment in units of oncology, hematology or HSCT. We are analyzing the interregional differences in the presentation, management and prognosis of these children, while drawing a national panorama that can be compared with other countries through a national and multicenter registry of children evaluated for SARS-CoV-2.

Through dissemination by the Brazilian Society of Pediatric Oncology (SOBOPE), Brazilian Association of Hematology and Hemotherapy (ABHH) and Brazilian Society of Bone Marrow Transplantation (SBTMO). 36 centers across the country agreed to participate in this project (Figure 1). All regions of the country are included. The variables evaluated are clinical symptoms, diagnostic method, therapeutic measures and treatment location. In addition, the repercussions of infection on baseline treatment and overall prognosis are being assessed. Despite being in an initial phase, the database already counts with 64 registered cases.

This joint work of the centers for pediatric oncology and bone marrow transplantation in our country is an advance that is allowing the development of one of the largest databases on the influence of COVID19 in the treatment of children in developing countries. Considering the small number of current literature on this subject, the heterogeneity of our population and regional differences, centralization of records is essential to better understand the extent and impact of this epidemic in our country, in addition to comparing the effect of local health strategies. It is important to highlight that the Sistema Único de Saúde (SUS), one of the largest and most complex public health systems in the world, guarantees universal health care and presents itself as a significant differential in combating the pandemic in Brazil through primary care, as well as medium and high complexity assistance.

The development of this study will contribute to a better understanding of the clinical presentation, evolution and impact of that of COVID-19 in pediatric cancer patients or those undergoing HSCT in middle-income countries.

Conflict of Interest

The authors declare that there is no conflict of interest.

Acknowledgment

We would like to thank all the researchers from the 36 centers registered in the country, the Brazilian Society of Pediatric Oncology (SOBOPE), the Brazilian Association of Hematology and Hemotherapy (ABHH) and the Brazilian Society of Bone Marrow Transplantation (SBTMO).

Ethical statement and consent to participate

Ethical approval to conduct this study has been granted by the Ethics Committee of Hospital de Clínicas de Porto Alegre (HCPA). Participating adults as well as those responsible for minors signed informed consents in duplicate, keeping a copy for themselves.

References

1. Painel Coronavírus. Coronavírus Brasil. <https://covid.saude.gov.br/>. Published 2020. Accessed June 30, 2020.
2. Ferrari A, Zecca M, Rizzari C, et al. Children with cancer in the time of COVID-19: An 8-week report from the six pediatric onco-hematology centers in Lombardia, Italy. *PediatrBloodCancer*. 2020;(April):3-5. doi:10.1002/pbc.28410.
3. Boulad F, Kamboj M, Bouvier N, Mauguen A, Kung AL. COVID-19 in Children With Cancer in New York City. *JAMA Oncol*. Published online May 13, 2020. doi:10.1001/jamaoncol.2020.2028.
4. de Rojas T, Pérez-Martínez A, Cela E, et al. COVID-19 infection in children and adolescents with cancer in Madrid. *PediatrBloodCancer*. 2020;67(7):19-21. doi:10.1002/pbc.28397.
5. Vasquez L, Sampor C, Villanueva G, et al. Early impact of the COVID-19 pandemic on paediatric cancer care in Latin America. *Lancet Oncol*. 2020;21(6):753-755. doi:10.1016/S1470-2045(20)30280-1.
6. IBGE. Estimativas da população residente no Brasil e unidades da federação com data de referência em 1º de julho de 2019. Brasília, DF: IBGE; 2019:1. ftp://ftp.ibge.gov.br/Estimativas_de_Populacao/Estimativas_2019/estimativa_dou_2019.pdf. Accessed June 30, 2020.
7. Reference: PNUD, IPEA, FJP. Desenvolvimento humano nas macrorregiões brasileiras. Brasília, DF: PNUD; 2016:1. https://www.ipea.gov.br/portal/images/stories/PDFs/livros/livros/20160331_livro-id_hm.pdf. Accessed June 30, 2020.

Figure 1 legend: Geographical distribution of participating centers

