

COVID-19 in Children with Cancer

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Covid-19 em Crianças com Câncer

Covid-19 en Niños con Cáncer

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INTRODUCTION

After December 2019, when the first cases of the then disease caused by a recently identified coronavirus (now named Sars-CoV-2, severe acute respiratory syndrome coronavirus 2) were reported in Wuhan, China¹, the disease caused by the new coronavirus (coronavirus disease 2019 – COVID-19) emerged officially as a pandemic declared by the World Health Organization (WHO) in March 11, 2020^{2,3}, infecting more than 118,319 individuals and with 4,292 deaths at that time⁴. Currently, the confirmed cases of Sars-Co-V-2 infection in 213 countries and territories all over the world reached more than 24,587,513, with 833,556 deaths registered on August 29, 2020 by WHO⁵.

COVID-19 is an acute infection of the respiratory tract with clinical cases ranging from mild and/or asymptomatic until severer forms. Although the lethality is low, nearly 3.7% of the cases, some factors are associated with increased risk of severer evolution of the disease and death such as advanced age and comorbidities as is the case of patients with cancer⁶.

The prevalence of cancer in patients with COVID-19 is approximately 2% (CI95% 2.0%-3.0%)⁷. Recent studies suggest that oncologic patients have increased risk for Sars-CoV-2 infection and severe complications of COVID-19 than the population in general because of their commonly immunosuppressed condition resulting from the cancer itself or anticancer treatments, in addition to more travels to hospitals and more odds of exposure to the virus⁸⁻¹⁰. However, data about the risk of infection, prognosis and impact of COVID-19 in the pediatric population, especially in children with cancer are still scarce.

DEVELOPMENT

In a recent systematic review¹¹, that gathered data of 131 studies published until May 14, 2020 with 7,780 pediatric patients of 26 different countries, the authors reinforced previous evidences¹²⁻¹⁴ that children diagnosed with COVID-19 present, in general, good prognosis and low rate of mortality¹¹. Among the cases analyzed in this review, only 11 children (0.14%) who met the condition of multi-systemic inflammatory syndrome and seven deaths (0.09%) were reported, and 76.6% of the patients were exposed to relatives diagnosed with COVID-19. As observed in previous studies, clinical manifestations in children with COVID-19 were generally mild, being cough and fever the most frequent and many asymptomatic cases^{11,12,15,16}.

According to data published in JAMA Oncology¹⁷, children with cancer apparently are no more vulnerable to Sars-CoV-2 infection or morbidities than other children. In this study, 178 patients treated in the Memorial Sloan Kettering Cancer Center in New York were evaluated, showing that only 5% of the oncologic patients needed to be hospitalized and 2.5% of the asymptomatic children without known exposure to the virus (120) tested positive for COVID-19. Similarly to the difference verified in adults, the investigators reported that of the 20 patients with infection, three were males and 17 females¹⁷. However, it is worth mentioning the limited number of children evaluated, which reinforces the need of new studies to confirm these findings.

However, in children with cancer, the current concern does not limit only to the possibility of increased risk of Sars-CoV-2 infections or severer clinical outcome, but also to the impact of COVID-19 pandemic in the

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management and care of these patients, mainly in what concerns the access to the existing treatments¹⁸⁻²⁰. In an article published in May 2020 in *The Lancet*, still in the initial phase of the pandemic, investigators already reported substantial negative consequences in caring for children with cancer in Latin America²¹. Among the main problems reported, delays of consultations and/or modification of treatment regimens and reduction of pediatric oncohematologic teams stood out²¹.

In this unprecedented and uncertain scenario imposed by COVID-19 pandemic, research groups and health professionals have been concerned in gathering and providing recommendations about reasonable and safety adjustments in the oncology services, protecting not only the patient but its family and the multidisciplinary team in cancer caring^{18,19,22,23}. An example of this is the international clinical guide published as special report in the journal *Pediatric Blood & Cancer*¹⁸, that collected information from the main organizations of child and adolescent cancer such as the International Society for Pediatric Oncology (SIOP), the Children's Oncology Group (COG) and the St. Jude Global, that provided guidelines for adjustment which can help to manage pandemic demands and guide preparations for long term impact as late diagnosis¹⁸.

In partnership with SIOP, the St. Jude Children's Research Hospital developed a platform of global registry of data of Sars-CoV-2-infected children with cancer with the objective of collecting data for future analyzes, share clinical experiences and develop seminars and workshops about the problematic. Accessed on August 29, 2020, this platform recorded 803 positive cases in 35 different countries of which 30% were children between 5 and 9 years old, most of them asymptomatic (42.5%)²⁴.

CONCLUSION

Innumerable and complex are the challenges the pandemic of the new coronavirus brings to Pediatric Oncology, not only related to existential changes involving the child world and the family of the oncologic pediatric patients but also for healthcare professionals for a safe and personalized care.

CONTRIBUTIONS

The authors contributed substantially and equally in all stages of the article and approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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