A cohort study of COVID-19 infection in pediatric oncology patients and the utility of remdesivir treatment

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October 28, 2022

Abstract

Introduction Pediatric oncology patients are reportedly at risk for progression to severe Coronavirus disease-2019 (COVID-19) infection. Data on the safety and clinical effectiveness of remdesivir in children with cancer remains scarce. The main aims of this study were to describe COVID-19 infection in this cohort and to evaluate the utility of remdesivir treatment in terms of the time to viral clearance and its safety profile. **Methods** This was a retrospective observational cohort study of pediatric oncology patients [?]18 years of age with SARS-CoV-2 polymerase chain reaction (PCR) confirmed infection. Patients were admitted to KK Women's and Children's Hospital from 1 st November 2021 to 31 st March 2022. Clinical data, investigations and laboratory tests results were collected. **Results** Eighteen patients were included. Median age was 6.5 years (IQR: 4.64 – 9.83), and there were 13 males (72.2%). The immunosuppressive status of the cohort was: severe (n = 3, 22.2%), moderate (n = 9, 50.0%) and low (5, 27.8%). All patients had mild COVID-19 infection, and there were no COVID-19 attributed deaths. Remdesivir was initiated in four patients. We did not detect any benefit in terms of time to viral clearance or SARS-CoV2 PCR cycle threshold [?]25 between the treated versus non-treated groups. Remdesivir was well tolerated with no safety concerns. **Conclusion** Our cohort of immunocompromised pediatric oncology patients all had mild clinical COVID-19 with no directly attributable morbidity and mortality. In four patients, treatment with remdesivir was safe but did not lead to early viral clearance.

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