Sickle Cell Disease and COVID-19: Susceptibility and Severity

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Abstract

Sickle cell disease (SCD) patients are immunocompromised with multiple comorbidities and a hypercoagulation state. On the other hand COVID-19 is associated with cytokine storm and hypercoagulability. To find the susceptibility and the clinical course of COVID-19 in SCD patients we surveyed related published papers from USA, Europe, Middle East, few African patients and international SCD registry. The COVID-19 presentation was mild in children and moderate in many SCD adults. To explain these findings, possible benefits of high HbF level, and hydroxyurea therapy could be considered. The obtained results should be interpreted considering low cases from sub-Saharan people, younger age of SCD patients compared to general population, a bias toward registry of more severe form of the disease, the influence of preexisting comorbidities with multisystem organ damage in exacerbation of the COVID-19 and the fatality rate in SCD patients and the role of health socio-economic determinants.

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