How we approach thrombosis risk in children with COVID-19 infection

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Abstract

Thrombosis within the microvasculature and medium to large vessels is a serious and common complication among critically ill individuals with COVID-19. While children are markedly less likely to develop severe disease than adults, they remain at risk for thrombosis during acute infection and with the post-acute inflammatory illness termed multisystem inflammatory syndrome in children. Significant knowledge deficits in understanding COVID-19 associated coagulopathy and thrombotic risk pose clinical challenges for pediatric providers who must incorporate expert opinion and personal experience to manage individual patients. We discuss clinical scenarios to provide framework for characterizing thrombosis risk and thromboprophylaxis in children with COVID-19.

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Table 1.pdf available at https://authorea.com/users/391720/articles/505745-how-we-approach-thrombosis-risk-in-children-with-covid-19-infection

Frame-work for thromboprophylaxis assessment in children with COVID COVID-19+ Hospitalized Ambulatory Moderate Asymptomatic/mild Asymptomatic/mild No supplemental oxygen +/- supplemental oxygen PICU Severity score 6-9 Thromboprophylaxis if no D-dimer ≥5 x ULN bleeding contraindications* No thromboprophylaxis Unless ≥ 2 or more significant VTE risk factors* LMWH 0.5 mg bid No ₹ UFH 15 Unit/kg/hr *VTE risks examples: MIS-C, Age ≥12 years, Obesity, Immobilization, CVL, estrogen, asparaginase, malignancy, soft tissue infortion additiona Consider therapeutic Significant risk of bleeding Refractory Platelet count >20 K/mm3 anticoagulation for high suspicion of PE

Abbreviations: PICU: pediatric intensive care unit; VTE: venous thromboembolism; PE: pulmonary embolism; MIS-C: Multisystem inflammatory syndrome in children; LMWH: Low molecular weight heparin; UFH: unfractionated hepa

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