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Guest Editorial

Aftermath of COVID-19 recovered paediatric patients – Preparedness for the future!

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The Coronavirus (COVID-19) has presented with an unprecedented epoch, posing a potential threat to mankind's survival.¹ The immature adaptive immune system, leading to phlegmatic cytokine storm and a decreased number of angiotensin-converting enzyme (ACE2) has been postulated in-back-of decreased susceptibility of acquiring a severe form of respiratory disease. On the contrary, the association of the life-threatening condition in this vulnerable subset bewildered the medical fraternity. The Royal College of Paediatrics and Child Health (RCPCH) ascribed this condition to be a paediatric multisystem inflammatory syndrome temporally associated with COVID-19 (PIMS-TS), eventually referred to as a multisystem inflammatory syndrome in children (MIS-C) by the and the World Health Organization and Centres for Disease Control and Prevention (CDC).^{2,3} The trajectory of symptoms consists of fever, vomiting, and abdominal pain or diarrhea. This predicament of a global pandemic has raised a unique conundrum in the diagnosis and management, akin. To mention a few, the alliance between SARS-CoV-2 and the Kawasaki disease (KD). KD is a state of acute vasculitis, systemic inflammation, and coronary artery aneurysms, followed by a viral infection in childhood. The disease has a high incidence of myocardial dysfunction (38-40%), often requiring inotropic support.⁴ Noteworthy, that the

association between the two was not confirmed due to lack of serological data.

Shift of Paradigm from acute illness of COVID-19 to recovered- Special concerns

The shift of paradigm from acute illness to 'recovered' COVID-19 patients necessitates the Paediatric anaesthesiologists to ponder upon certain cardinal admonitions. There exists substantial data in the literature, indicative of pulmonary, cardiac, and neurological post-COVID sequelae. It is cardinal to differentiate viral-inflammatory syndrome (MIS-C or PIMS-TS) from other febrile illnesses in the paediatric subset, including Kawasaki disease (KD) and toxic shock syndrome (TSS). Nevertheless, Whittaker et al. outlined MIS-C, differentiating features including neutrophilia, high leukocyte counts, anemia, lymphocytopenia in the background of elevated C-reactive protein.⁵

British Congenital cardiac association recognised that the CHD subset presents with a heightened risk of severe illness following COVID-19 infection. Noteworthy, the increased SVR/PVR may precipitate cyanotic spells in children with TOF. Furthermore, the procoagulant milieu in the background of hyper-viscosity syndrome potentiates the thrombo-embolic sequel with an increased propensity of cerebral abscess formation. Factors in the assessment of the recovered COVID-19 patients include the time frame, from

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clinical recovery from the SARS-CoV-2 virus, respiratory status, functional status, and radiological and laboratory data to assess the patient's appropriateness for surgery.

Albeit, the evidence for the management of recovered COVID-19 paediatric subset posted for surgery is still evolving, the available data outlines a multidisciplinary perspective, also involving psychosocial factors following recovery due to severe illness to attain preoperative optimization and choosing the appropriate time to proceed for surgery. Biochemical testing in a paediatric patient with COVID-19 capitulates nonspecific results, contributing infirmed diagnostic aids. Lymphopenia reflects the severity of COVID-19 due to the consumption of lymphocytes by SARS-CoV-2 and is rare in paediatric patients. Thereby, warranting vigilant monitoring to determine the severity of COVID-19 sequela.⁶

To conclude, it is of paramount importance to acknowledge that paediatric patients recovered or recovering from the SARS-CoV-2, represents a great part, that is yet unreviewed. No recommendation can be presumed as a panacea, it abides as an entity to undergo active research. Practically, the paediatric anaesthesiologist will be required to care for this growing subset, and thereby it is of paramount importance to understand the anaesthesia related concerns to remit effective care. Further data, in near future will aid in the anaesthetic management challenges in these recovered patients. Anaesthesiologists' active role in the COVID-19 recovered patient posted for surgery is entailed to ensure a pre-eminent outcome for this special patient population.

Conflict of Interest

None.

References

1. Sharma R, Saxena A, Magoon R, Jain MK. A cross-sectional analysis of prevalence and factors related to depression, anxiety, and stress in health care workers amidst the COVID-19 pandemic. *Indian J Anaesth*. 2020;64:242–4.
2. Royal College of Paediatrics and Child Health. Guidance: paediatric multisystem inflammatory syndrome temporally associated with COVID-19. Available from: www.rcpch.ac.uk/resources/guidance-paediatric-multisystem-inflammatory-syndrome-temporally-associated-covid-19.
3. Centers for Disease Control and Prevention. Emergency preparedness and response: health alert network. Available from: emergency.cdc.gov/han/2020/han00432.asp.
4. Bitsadze VO, Grigoreva K, Khizroeva JK, Pervunina TM, Tsibizova VI, Tretyakova MV, et al. Novel coronavirus infection and Kawasaki disease. *J Matern Fetal Neonatal Med*. 2020;30:1–5.
5. Ahmed M, Advani S, Moreira A, Zoretic S, Martinez J, Chorath K. Multisystem inflammatory syndrome in children: A systematic review. *EClinicalMedicine*. 2020;26:100527–100527.
6. Sharma R, Choudhary R, Gupta N, Gupta A. Novel SARS-COV-2 virus (COVID-19): Essential insights for perioperative management of suspected or confirmed pediatric cases. *Indian Anaesth Forum*. 2021;22:3–10.

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