

Reviewer #1:

**Scientific Quality:** Grade C (Good)

**Language Quality:** Grade A (Priority publishing)

**Conclusion:** Minor revision

**Specific Comments to Authors:** The manuscript's topic is very relevant, as it is devoted to the evaluation of age-adjusted NT-proBNP as a biomarker for the initial screening and monitoring of myocardial dysfunction in critically ill pediatric patients with the multisystem inflammatory syndrome (MIS-C). Based on the results of their own retrospective study, the authors showed that Z-log-NT-proBNP values  $> 4$  may be more indicative of concerning echocardiographic findings associated with disease severity, including reduced LVEF and the need for PICU admission for inotropic support. An essential finding of the authors is that NT-proBNP can also be used as a laboratory marker of subclinical LV dysfunction, aiding in the monitoring of cardiovascular complications during post-hospitalization follow-up. This study may have potential clinical implications. The authors correctly described the main limitations of this study, which do not allow us to provide a long-term prognosis and guarantee the absence of medium-term changes in the myocardium in patients with MIS-C. The figures and tables seem quite informative. There is no bibliography, so it is not possible to evaluate self-citation and how up-to-date are the references (there are only numbers; in addition, some citations are not numbered, for example, Penner et al.). The manuscript may be published, however, after revision, which includes primarily the correct use of bibliographic references. It is also proposed to change the title of the manuscript to be more precise and clearer, for example, 'Very high values of age-adjusted NT-proBNP could help in the early identification of children at risk for the severe multisystem inflammatory syndrome'.

**Response:** Thank you very much for your time reviewing our manuscript and for your valuable comments. The absence of references is because an erroneous version of the manuscript was sent that did not contain them, the final version that will be sent now does contain them. We thank you and accept the change of the title of the manuscript to the one you suggest.

**Reviewer #2:**

**Scientific Quality:** Grade C (Good)

**Language Quality:** Grade B (Minor language polishing)

**Conclusion:** Minor revision

**Specific Comments to Authors:** In the manuscript, entitled, "Aged-adjusted NT-proBNP is higher in critically ill patients with multisystem inflammatory syndrome in children", Rodriguez-Gonzalez et al performed a retrospective study including children with MIS-C managed at our institution between April 1, 2020, and February 28, 2022. They compared cardiac parameters between groups of severity based on PICU admission. They compared Z-log-NT-pr cardiac biomarkers values across these groups and on the cardiac dynamics throughout follow-up. All (100%) these cases presented very high (Z-log > 4) levels of NT-proBNP at the time of admission compared to only 5 (50%) patients with non-severe MIS-C ( $p=0.025$ ). NT-proBNP significantly correlated significantly with high-sensitive Troponin I levels ( $p=0.045$ ), Ross modified score ( $p=0.003$ ) and left ventricle ejection fraction ( $p=0.021$ ). Though the research work is interesting and, in the near future, can be of importance to scientific community, few minor clarification and modification (stated below) is required prior to publication. Minor comments: 1. References seems missing in the main manuscript. Entire reference need to added in the manuscript prior to publication 2. Grammar correction need to done at few places 3. In the manuscripts, authors have mentioned the sentence below: Please Informed consent statement: Patients were not required to give informed consent to the study because it did not involve human experimentation. The anonymity of the patients has been guaranteed. Please be sure, this is okay, prior to publication

**Response:** Thank you very much for your time reviewing our manuscript and for your valuable comments. The absence of references and grammar mistakes were because an erroneous version of the manuscript was sent that did not contain them, the final version that will be sent now does contain them and grammar correction has been done. We confirm that anonymity of the patients has been guaranteed. There is no data in the manuscript that could lead to the identification of the patients included in this study.