Correspondence

To the Editors

Is lymphadenopathy more commonly associated with multisystem inflammatory syndrome in children (MIS-C) in the second Covid-19 wave than in the first wave?

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Dear Editors.
We read with great interest the article published in the 2022 September issue of the Sri Lankan Journal of Child Health by Sasidharan B, *et al*[1] titled "A hospital based comparative study of the first and second waves of Covid-19 related MIS-C". The authors highlighted the MIS-C cases, their prevalence, characteristics and severity and observed a high rate of lymphadenopathy in the second-wave MISC patients as compared to the first wave, which is a unique and new observation.

I would like to highlight some important aspects of this study. The study has some shortcomings:

1. It is from a single multispecialty tertiary care facility, which makes it susceptible to referral bias.
2. The data shown in Table 1 under the head "Referred as MISC" are not matching. The table depicts 47 (72.0%) cases in wave 1 and 56 (77.0%) cases in wave 2 but the total cases depicted are only 09 (07.0%), which seems impossible. These total and individual numbers are not matching with the sum of patients in both waves. These figures are creating confusion and are a concern of bias.
3. The other point which needs explanation is the unusual increase in cases of lymphadenopathy during the 2nd wave in patients with MISC as reported by the authors.

I have gone through the entire article and also other studies from the literature but could not find any relevant reason for increased incidences of lymphadenopathy. This point was not taken into consideration in the discussion. It is a major finding in the study which updates our knowledge and is a valid point that requires explanation.

In a study conducted by P MT, *et al*[2], there was no discernible difference found between the two groups regarding need for oxygen therapy, severity of disease and hospitalization. Although the infections during the Covid-19 pandemic among children during the first and second waves were similar in intensity, however, the mortality during the second wave was a bit high. One study conducted by Purkayastha S, *et al*[3] in India has shown more deaths in the 2nd wave as compared to the first wave which was mostly attributed to the underlying co-morbid conditions. In both the first and second waves, almost 90% of the patients were asymptomatic and clinical presentations were similar. Data are very limited regarding the infectivity of children during the second Covid wave. The infectivity rates in India during the first and second waves were 0.36% and 0.18% respectively.

In the first wave of the SARS-CoV-2 pandemic, fewer children were affected as compared to the 2nd wave. The reason may be the increase in mass meetings, the opening up of lockdown and not following social distancing and universal precautions. Higher incidence but lesser severity during 2nd wave was also reported in other countries as the child was protected because of the same type of infection[4]. The cases were less severe in the 2nd wave because of repeated viral infection and routine vaccination, resulting in the development of good immunity. More cases were diagnosed with MIS-C in the first Covid wave as compared to the second wave[5].

One thing I would like to highlight is that MIS-C was over-diagnosed during 2nd Covid wave by most clinicians due to falsely high antibodies titre in children, may be a result of vaccination. Some children had got vaccination by then and developed passive and herd immunity, so the antibody level was a little bit higher in their blood favouring the diagnosis of MIS-C in children. Before actually making the final diagnosis, it should be differentiated from post-covid infection syndrome. I do agree with the authors that the spectrum of disease in 2nd wave was different in India from first wave. The vaccination coverage of the population was also high and this vaccination drive helped to develop some herd immunity in adolescents. The other reason is the immunity and the mutated variants with lesser severity.

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Response by authors of article

Dear Editors.
We thank Dr Mahaveer Singh Lakra for the interest shown in our article titled "A hospital based comparative study of the first and second waves of Covid-19 related MIS-C"[1] and the critical appraisal of the same. I would also like to express our gratitude for bringing to our notice an error in Table 1, which escaped our scrutiny.

1. Our study was done in a tertiary care teaching hospital, and hence may not reflect the profile of cases in the community. Majority of our cases are referred from other hospitals and hence the number of mild cases of MISC represented in the study will be low.

2. There is an error in the Table 1. In the "Referred as MISC" head, total number of patients referred as MISC is 56 (41%), number of patients referred as MISC during first wave of COVID was 9 (14%) and second wave of COVID was 47 (64%). Significantly higher number of patients were referred as MISC during the second wave, which reflects the increased awareness among primary care physicians and paediatricians about the disease. Being a new disease, majority of the doctors were not aware of the clinical features of MISC and hence patients were referred as other diseases. We regret this mistake and express our gratitude for bringing this error to our notice.

3. An increase in the number of cases with cervical lymphadenopathy was noticed during the second wave in our study. (30% vs 14% during the first wave). We also noticed a lower incidence of rash, oral mucosal involvement, conjunctival haemorrhage and oedema in the cases of MIS-C which occurred during the second wave. Difference in the circulating Covid-19 strain responsible for MIS-C may have contributed to difference in clinical features. Other studies have also reported difference in clinical presentation between different waves[2, 3].

4. Our study was completed before Covid-19 vaccination for children was started in India. Hence, vaccination cannot be considered as a factor which affected the change in clinical features.

References

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Editorial comment

The error in Table 1 has been corrected.

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