Letters to the Editor

From: Hageman, Joseph [PED] <jhageman@peds.bsd.uchicago.edu>

Sent: Tuesday, November 17, 2020 6:26 PM

To: Goldstein, Mitchell <MGoldstein@llu.edu>

Subject: [EXTERNAL] SARS-CoV-2 Neonatal Infections

Dear Mitchell,

We had a journal club presentation of a couple of new papers about neonatal SARS-CoV-2 infections. The papers were by Raschetti, which was a synthesis and systematic review and a collection of cases from the United Kingdom. There were a number of questions about the quality of the data presented as these were a collection of cases from around the world or in the UK. My comment was that the state of the art re neonatal SARS-CoV-2 is, at present, primitive. What are your thoughts?

Raschetti R et al. Nature Communications <https://doi.org/10.1038/s41467-020-18982-9>.
<https://doi.org/10.1038/s41467-020-18982-9>.

Thanks,

Joe

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Dear Dr. Hageman:

From the early case reports of neonates with SARS-CoV-2 to a more recent case series of infections in pandemic areas, the data has been frankly underwhelming. Although there is ample evidence of long term morbidities and mortalities in older pediatric patients and adults, the breadth of disease burden appears to have bypassed many of the infected neonates. Whether this is related to innate protection from a passive antibody, less chronic disease in the population, a less toxic immune reaction, or an "immature" reaction to the various cytokine and interleukin activation factors implicated in late disease, we have been fortunate enough

not to have our NICU's filled with moribund neonates.

The reference indicated that 70% and 30% of neonatal infections are secondary to environmental and vertical transmission. Although 55% of infected neonates developed COVID-19, fever (44%) was most common, followed by gastrointestinal (36%), respiratory (52%), and neurological (18%) symptoms. Not unlike older pediatric and adult patients, lung imaging showed aberrancies in 64% of the cases. Mother–neonate cohabitation was associated with the development of late SARS-CoV-2 infection. Most interesting, perhaps, was that this data was compiled from just 176 patients suggesting an extremely low rate of penetrance or subclinical disease that has not been reported.

Notwithstanding data quality, primitive is an apt description of where we are at present. Long term morbidities and developmental aspects of past infection require more vigilance and enhanced disease tracking. Until we reach that point, we risk the potential for unknown long term effects.

Sincerely,

Mitchell Goldstein, MD

Editor in Chief

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c/o Mitchell Goldstein, MD

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