Reply to the Letter to the Editors regarding COVID-19 infection and placental histopathology in women delivering at term

Thank you for your comments regarding our publication, “Coronavirus disease 2019 infection and placental histopathology in women delivering at term.” The authors bring up several issues that we wish to address.

First, in response to the comments regarding the possibility of false positive COVID-19 polymerase chain reaction (PCR) testing and the suggestion to repeat screening within 48 to 72 hours, we acknowledge that false positive results are possible; however, this was a retrospective cohort study and, therefore, repeat testing was not feasible. Another publication from our institution using the same PCR methodology estimated a test specificity of 96%, and thus we feel it unlikely that a high false positive rate contributed substantially to our findings.

Second, we did not assess for meconium aspiration syndrome in our study. We assume that the authors were referring to our report of more frequent placental histopathologic findings of meconium in the COVID-19 cohort. We agree that the presence of meconium on histopathologic examinations is a nonspecific finding, and we do not make the argument that this should be attributed to COVID-19. In fact, we acknowledge in the discussion section of the article that this finding was likely attributable to a higher rate of vaginal delivery in the COVID-19 group and of little clinical significance.

Third, the authors state that “vasculitis of unknown origin, chronic intervillitis, can also be stated as one of the findings in the COVID-19 cohort.” We believe that they are referring to our finding of villitis of unknown etiology (sometimes referred to as chronic villitis) that was 3-fold more common in the COVID-19 cohort than in the negative controls. In response to their comment that these changes can be caused by inflammation, we agree. However, we disagree that it can be caused by an intrapartum event, because these histopathologic changes are caused by chronic cellular inflammation of villous stroma, which does not manifest in such a short period. We acknowledge that the etiology of villitis of unknown etiology can be multifactorial, but hypothesize that it may have been a direct consequence of infection of the placenta or caused by an altered immune response to increased levels of cytokines, which can occur following other respiratory viral infections.

In addition, the rate of villitis of unknown etiology in our COVID-19 cohort (20.7%) was higher than expected in term placentas (5%–15%), further suggesting that it is unlikely to be a spurious finding.

REFERENCES

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