

Re: Detection of SARS-CoV-2 in vaginal swabs of women with acute SARS-CoV-2 infection: a prospective study. (First comment on BJOG-20-1775.R1)

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Letter to the Editor, BJOG Exchange

Re: Detection of SARS-CoV-2 in vaginal swabs of women with acute SARS-CoV-2 infection: a prospective study

[Author's title: Maternal transmission of SARS-COV-2 to the neonate, and possible routes for respiratory transmission]

Sir,

We read with great interests the article by Anat Schwartz and colleagues, entitled “Detection of SARS-CoV-2 in vaginal swabs of women with acute SARS-CoV-2 infection: a prospective study”. The prospective study contained important information, which included the participant women in both reproductive and non-reproductive years. In their findings, of the 35 patients sampled, 2 (5.7%) had a positive vaginal RT-PCR for SARS-CoV-2, one was pre-menopausal and the other was a post-menopausal woman, however, they did not detect the presence of viral colonization in the vagina in five pregnant women.

The detections of virus in the vagina and breast milk in pregnant women have been reported in similar studies, and concluded that vaginal delivery or breast milk feeding might be low risk, for the major sampled vagina and breast milk had negative RT-PCR for SARS-CoV-2.

As a retrospective study reported 42 pregnant women with COVID-19, the different infection rates of their neonates were analyzed between vaginal birth and Caesarean delivery. Though the authors concluded that vaginal delivery was associated with a low risk of intrapartum SARS-Cov-2 transmission to the newborn, we would like to ask whether all infected mothers had a mask during labor? If yes, partial or whole course? Furthermore, whether the virus concentrations in the delivery or labor room after vaginal birth or Caesarean delivery could be similar or very different?

Clinically, maternal transmission of SARS-COV-2 to the neonate through the respiratory routes might have been seriously underestimated. SARS-CoV-2 spreads through contact (via larger droplets and aerosols), and longer-range transmission via aerosols, especially in conditions where ventilation is poor and the virus characters as strong infectivity, rapid and wide spread. COVID-19 infected mother may release lots of droplets containing virus in the room during labor when using deep breathing and abdominal pressure. The delivery room satisfies the condition of high risk of respiratory transmission. The neonate might breathe the virus into the lung with the first crying, which might be an important time-point for the neonate infected with virus. And it might be the major difference between vaginal and cesarean deliveries, we should not solely

consider whether the vagina secretion and breast milk contain virus. More in-depth and detailed studies, including randomized studies should be performed to confirm the risks of respiratory routes for maternal transmission of SARS-COV-2 to the neonate, and further elucidation of the safety the mode of delivery is necessary to examine these conclusions from a clinical perspective.

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