

# Journal Pre-proof

Serial Surveillance for SARS-CoV-2 in hospitalized antepartum women

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1 Title: Serial Surveillance for SARS-CoV-2 in hospitalized antepartum women

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Objective:

During New York City (NYC)'s first wave of COVID-19 in the spring of 2020, NewYork-Presbyterian Hospital/Columbia University Irving Medical Center instituted universal SARS-CoV-2 testing for all admitted pregnant women (1). No visitors were permitted on the antepartum unit during the peak of the pandemic. As local infection rates decreased, one support person was allowed for each patient. During NYC's second COVID-19 wave, which began in October 2020, the one-support-person policy was maintained. Due to concerns that hospitalized pregnant women could be within the SARS-CoV-2 14-day incubation period on admission or could become infected by asymptomatic support persons, polymerase chain reaction (PCR) testing for SARS-CoV-2 via nasopharyngeal swabs were obtained every 5 days for all women above 23 weeks gestation who had prolonged hospitalizations for obstetric indications. In this letter, we report the outcomes of repeat testing.

Study design:

From November 23, 2020 to March 3, 2021, results of all SARS-CoV-2 PCR swabs sent from the antepartum unit were collected. Serial testing was only performed for patients whose admission test was negative and who could require urgent delivery, as an unrecognized SARS-CoV-2 infection could have significant anesthetic and neonatal implications. Results were evaluated in the context of the local 7-day positivity rate for our hospital's zip code (10032). Table 1 details our visitor policy.

Results:

169 swabs were performed on 72 patients. None of these patients became SARS-CoV-2 positive during their hospitalization. Patients were re-tested an average of 2.34 times (range 1- 13). The 7-day positivity rate for our hospital's zip code was 5.3% on November 28 and peaked at 10.2% on January 8. These rates were higher than the overall positivity rate for Manhattan and all of NYC during the same time (2).

#### Conclusions:

Despite allowing visitors to the antepartum unit during a time of high local positivity rate for SARS-CoV-2, hospitalized pregnant women did not become infected. This may reflect the effectiveness of visitor screening for COVID-19 symptoms upon presenting to the hospital, the self-monitoring of symptoms by our patients' family members, the enforcement of universal masking of patients and visitors, social distancing, and hand hygiene. This testing practice, intended to promote safety, proved to be costly in terms of testing resources and staff workload without adding clear benefit. In addition, several women refused repeat testing due to discomfort.

Similar findings were noted in a larger non-obstetric patient population. Serial SARS-CoV-2 testing was performed every 5 days in 4580 hospitalized patients in a large tertiary care center and 96.9% had negative results (3). Only 1% converted from a negative to a positive test during admission.

We plan to continue to test all admitted pregnant women for SARS-CoV-2 and to perform a second test on hospital day 5, in case a patient is admitted during the incubation period for SARS-CoV-2. Subsequent testing for SARS-Co-V-2 will be performed for patients with

signs, symptoms or exposure, or in anticipation of delivery. We hope our experience will be useful to other institutions faced with similar challenges.

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**Table 1. Visitation Guidelines for Obstetric Units at New York-Presbyterian/Columbia University Irving Medical Center**

- Support persons must be 18 years or older
- One designated support person is selected by patient and, when possible, remains the same person throughout the admission
- Upon arrival, support persons undergo temperature and symptom screening, screening for COVID-19 illness within past 10 days, COVID-19 exposure within past 14 days, and relevant travel history as per New York State Department of Health restrictions.
- Sick visitors are not permitted to enter the hospital
- Upon arrival, support persons perform hand hygiene and must wear a surgical mask throughout their visit. If cloth masks are used, they must be worn over a surgical mask.
- Support persons must remain at the patient's bedside throughout their visit.
- Visitation hours for obstetric patients are 24 hours a day

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