Research Letter

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Universal Testing Experience on a Los Angeles Labor and Delivery Unit

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INTRODUCTION

On March 11, 2020, the World Health Organization labeled the novel coronavirus (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) outbreak a pandemic, and Los Angeles County announced its first coronavirus disease 2019 (COVID-19)–related death. By April 4, 2020, there were 5,277 cumulative cases in Los Angeles County (Fig. 1),[1] with 85 COVID-19–related hospitalizations at Cedars-Sinai Medical Center. On our labor and delivery unit at Cedars-Sinai Medical Center, with more than 500 deliveries per month, we had detected very few cases of SARS-CoV-2 infection in pregnant women presenting with symptoms of COVID-19. After a recent report described a 13.5% rate of SARS-CoV-2 infection among asymptomatic pregnant women in New York City,[2] we had concerns that asymptomatic infections may have gone unrecognized on our unit.

METHODS

On April 4, 2020, we changed our policy from testing only those women with symptoms of COVID-19 infection (including cough, fever, or dyspnea) to testing all pregnant women admitted to our labor and antepartum units for SARS-CoV-2 using reverse transcription-polymerase chain reaction of nasopharyngeal swabs (A*Star Fortitude Kit 2.0). Based on internal validation studies at our institution, the sensitivity of this assay for SARS-CoV-2 was 100% at 250 copies/reaction and 95% at 25 copies/reaction (unpublished data). The specificity was 100%, with no cross-reactivity with other common respiratory viruses. Test results were available within 20 hours.

During the testing period, strict use of personal protective equipment was implemented until reverse transcription-polymerase chain reaction test results were available, and pregnant women were managed according to our infection-control guidelines for women classified as persons under investigation or positive for COVID-19 infection. Approval from the Cedars-Sinai Institutional Review Board was obtained before this study.

RESULTS

Over a 1-week period, 82 pregnant women admitted to our obstetric unit were tested for SARS-CoV-2 infection, of whom 77 (94%) were admitted to the labor unit and five (6%) were admitted to the antepartum unit. Mean (±SD) maternal age and gestational age were 34 (±4.6) years and 38.5 (±1.9) weeks, respectively. Two women reported symptoms of COVID-19 infection on intake; one tested positive for SARS-CoV-2. Of the remaining 80 asymptomatic women, none tested positive for SARS-CoV-2 infection, and all remained symptom-free throughout their hospitalizations (0/80, 0%; 95% CI 0–4.5%). There were no postpartum readmissions. One asymptomatic patient had an inadequate nasopharyngeal specimen and declined repeat testing.

Women tested for SARS-CoV-2 infection were treated as persons under investigation and placed on

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Each author has confirmed compliance with the journal's requirements for authorship.

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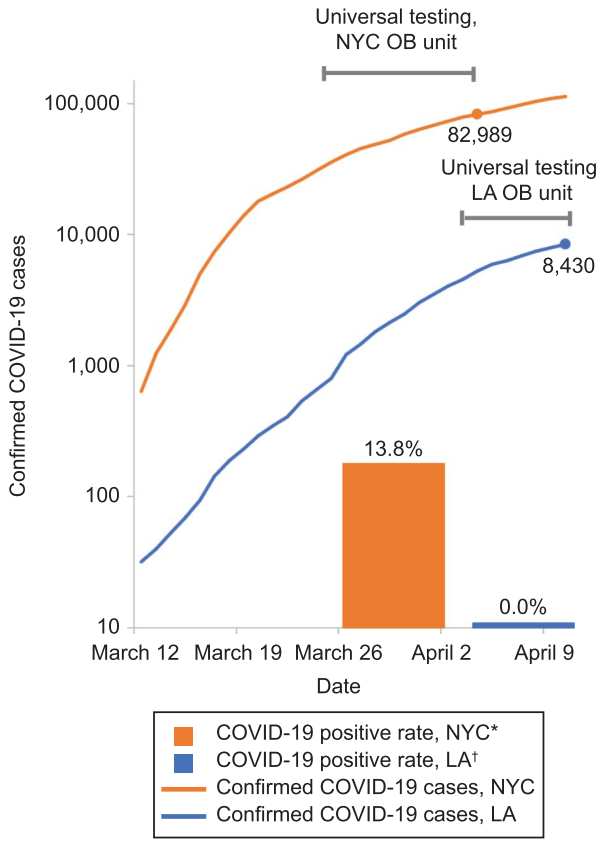

Fig. 1. Relationship between rate of positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) test results on the labor unit and community prevalence. The number of confirmed coronavirus disease 2019 (COVID-19) cases in New York City (NYC) at the end of the testing period was nearly 10-fold that in Los Angeles County (LA), despite similar rates of increase in cases per day in both cities (median 8.4% and 7.1%, respectively). Similarly, the proportion of asymptomatic patients who tested positive for SARS-CoV-2 infection on presentation to NewYork–Presbyterian and Columbia University Irving Medical Center (13.5%) was higher than the proportion who tested positive on presentation to Cedars-Sinai Medical Center in LA.[1–3] OB, obstetric. *NewYork–Presbyterian Hospital and Columbia University Irving Medical Center. †Cedars-Sinai Medical Center.

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contact precautions while test results were pending. This led to use of valuable personal protective equipment by all members of the treatment team and, in some cases, mother–newborn separation until test results were available. For these reasons, we discontinued universal testing after a 7-day period, because we could not justify continued testing of asymptomatic women in the absence of positive test results for SARS-CoV-2 infection.

DISCUSSION

Our experience with testing for SARS-CoV-2 infection in asymptomatic pregnant women differs greatly from reports from our colleagues in New York City. This may be the result of an overall lower disease burden in Los Angeles County compared with New York City (Fig. 1).[3,4] Our findings suggest that the decision to implement universal testing for SARS-CoV-2 infection for all pregnant women admitted to the hospital should take into account information on local rates of infection, assuming these data are available and reliable. Alternatively, a trial period of universal testing may help determine whether such an approach makes sense for an individual labor and delivery unit. The COVID-19 pandemic is ongoing, and testing protocols may evolve as testing capabilities expand and as the natural history of this pandemic unfolds. Though universal testing did not yield enough positive results on our obstetric unit to warrant continued testing at this time, our approach may change if local rates of infection increase.

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PEER REVIEW HISTORY

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