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Obstetrics

Universal screening for SARS-CoV-2 in asymptomatic obstetric patients in Tokyo, Japan

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KEYWORDS: COVID-19; Novel coronavirus; Pregnancy

Asymptomatic transmission of SARS-CoV-2 is a major issue in healthcare settings, and management in perinatal wards requires particular caution. Located in central Tokyo as a tertiary center, Keio University Hospital implemented universal PCR testing on patients before admission starting April 6 2020, in response to a nosocomial outbreak of COVID-19. The present study reports a retrospective review of 52 obstetric patients universally tested for SARS-CoV-2 admitted to this hospital between April 6 and April 27, 2020.

PCR test results were confirmed in all patients prior to admission, except for two who were in labor before testing. The two patients were isolated and treated in negative-pressure rooms until results confirmed them negative. Of the 52 women, none presented with symptoms of COVID-19, yet two (3.8%) were confirmed positive when tested using PCR, and one (1.9%) was treated as positive due to close contact with her COVID-19-confirmed husband. For these patients, we performed elective cesarean deliveries in negative-pressure operation rooms after obtaining informed consent, followed by postpartum care in isolation rooms. The patients remained asymptomatic, with subsequent repeated negative PCR results. The newborns were admitted to the NICU isolation area with negative ventilation; none tested positive for SARS-CoV-2 after birth (Table 1).

Our findings showed that the prevalence of COVID-19 in Tokyo among asymptomatic obstetric patients (4%) was low in comparison with other cities such as New York, where prevalence was reported to be 13%.[1] Since the number of positive cases had likely been underestimated due to the government's policy of solely testing symptomatic cases in Japan, the present data might offer an estimation of the asymptomatic proportion of COVID-19 in the area. Additionally, the research highlighted the importance of preventing viral shedding from certain asymptomatic cases with regard to nosocomial infection.[2]

Management of COVID-19 obstetric patients can be greatly affected by the characteristics of a facility, such as the number of deliveries and medical staff, availability of effective isolation environments and personal protective equipment (PPE), and the crisis situation. Although there is no definitive evidence of negative-pressure delivery rooms reducing nosocomial infections, ISUOG guidance recommends them for confirmed cases.[3] In our case, the hospital was under extreme burden of dealing with a widespread nosocomial outbreak, which led to scarcities

TABLE 1 PCR-confirmed and clinically suspicious cases of SARS-CoV-2.

Case	Age	PCR (mother)	GA	Covid-19 symptom	PH	BW (g)	Apgar (1/5 min)	PCR (neonate)	Note
1	33	Positive	39 + 4	None	None	3715	7/8	Negative	None
2	32	Positive	37 + 2	None	None	2805	8/9	Negative	None
3	31	Negative	37 + 2	None	Hypothyroidism	2998	9/9	Negative	Husband: PCR-positive

Abbreviations: Apgar, Apgar score; BW, birth weight; GA, gestational age (weeks + days); PH, past history.

of staffing and PPE. However, by universally testing patients before admission and determining isolation practices based on screening results, we were able to prevent transmission of SARS-CoV-2 within the perinatal ward while maintaining the function of a tertiary care hospital.

AUTHOR CONTRIBUTIONS

DO, YK, and MT were involved in the conceptualization, investigation, writing of the original draft, and editing and review of the manuscript. MI and SI were involved in the writing, review, and editing, and investigation of the study. MT was also responsible for the supervision of the study.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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Obstetrics

Rheumatic diseases during pregnancy and SARS-CoV-2: An appeal for medication adherence

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KEYWORDS: COVID-19; Pregnancy; Rheumatic diseases; Therapy

The coronavirus disease 2019 (COVID-19) pandemic, caused by a novel coronavirus (SARS-CoV-2), has raised concerns among physicians and their patients with rheumatic diseases (RDs) as the risk of infection was believed to be increased due to altered immune system activity that is typical of RDs and possibly worsened by glucocorticoids and immunosuppressive drugs.[1] An appeal for adherence to therapy was shared among rheumatologists, but special attention should be paid to pregnant women who suffer from RDs.

RDs during pregnancy are associated with adverse maternal and fetal outcomes,[2] and therapy discontinuation prompts a disease flare. Disease activity control during pregnancy is crucial for optimal obstetric management.[2] Interestingly, tumor necrosis factor alpha (TNF-a), interleukin-1 (IL-1), and interleukin-6 (IL-6), which are produced in response to infections (such as COVID-19) and tissue injuries (such as RDs),[3] are considered key cytokines for pathophysiology in the aforementioned diseases. Limited data are available regarding COVID-19 during pregnancy, but a tendency towards prematurity was reported,[4] and this may be due to a release of pro-inflammatory cytokines in response to the virus, a process that is well recognized as a pivotal cause of preterm delivery. Similarly, reports on other coronavirus infections during pregnancy, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), showed higher rates of spontaneous abortion, premature birth, and intrauterine growth restriction.[4]

At present, there is a lack of information about the impact of SARS-CoV-2 on pregnant women with RDs; however, according to expert