Letters

RESEARCH LETTER

Change in the Incidence of Stillbirth and Preterm Delivery During the COVID-19 Pandemic

High rates of preterm birth and cesarean delivery have been reported in women with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. However, studies have inadequate power to assess uncommon outcomes like stillbirth (fetal death ≥24 weeks’ gestation). The UK Obstetric Surveillance System reported 3 stillbirths among 247 completed pregnancies in women with confirmed coronavirus disease 2019 (COVID-19) vs the national rate (12.1 per 1000 births vs 4-5 per 1000 births). We assessed the change in stillbirth and preterm delivery rates during the pandemic.

Methods | We compared pregnancy outcomes at St George’s University Hospital, London in 2 epochs: from October 1, 2019, to January 31, 2020 (preceding the first reported UK cases of COVID-19), and from February 1, 2020, to June 14, 2020. Outcomes included stillbirth, preterm birth, cesarean delivery, and neonatal unit admission. We investigated all stillbirths and repeated the analysis after excluding late terminations for fetal abnormalities, as the definition of stillbirth in the UK includes late termination at 24 weeks’ gestation or beyond.

Group comparisons were made using Mann-Whitney and Fisher exact tests. The analysis was performed using Stata 11, release 11.2 (StataCorp) and GraphPad Prism 5.0 for Windows (InStata, GraphPad Software Inc). A 2-sided P value of less than .05 defined statistical significance. Ethics committee approval and informed consent were not required as per the UK Health Research Authority.

Results | There were 1681 births (1631 singleton, 22 twin, and 2 triplet pregnancies) in the prepandemic period and 1718 births (1666 singleton and 26 twin pregnancies) in the pandemic period. There were fewer nulliparous women in the pandemic period than in the prepandemic period (45.6% vs 52.2%; P < .001) and fewer women with hypertension (3.7% vs 5.7%; P = .005) in the pandemic period than the prepandemic period, and there were no significant differences in other maternal characteristics (Table 1).

The incidence of stillbirth was significantly higher during the pandemic period (n = 16 [9.31 per 1000 births]; none associated with COVID-19) than during the prepandemic period (n = 4 [2.38 per 1000 births]) (difference, 6.93 per 1000 births [95% CI, 1.83-12.0]; P = .01) (Table 2), and the incidence of stillbirth was significantly higher when late terminations for fetal abnormality were excluded during the pandemic period (6.98 per 1000 births vs 1.19 in the prepandemic period; difference, 5.79 [95% CI, 1.54-10.1]; P = .01). There were no significant differences over time in births before 37 weeks’ gestation, births after 34 weeks’ gestation, neonatal unit admission, or cesarean delivery (Table 2).

During the pandemic period, 19 patients with COVID-19 were hospitalized in the study site maternity department. None of the pregnant women who experienced stillbirth had symp-

<table>
<thead>
<tr>
<th>Maternal Characteristics</th>
<th>Prepandemic period (n = 1681 births)a</th>
<th>Pandemic period (n = 1718 births)a</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median (IQR), y</td>
<td>33.0 (29.0-36.0)</td>
<td>33.0 (29.0-36.0)</td>
<td>.20</td>
</tr>
<tr>
<td>BMI, median (IQR)b</td>
<td>24.56 (22.02-28.13)</td>
<td>24.34 (21.77-28.37)</td>
<td>.54</td>
</tr>
<tr>
<td>Nulliparity, No./total No. (%)</td>
<td>864/1655 (52.2)</td>
<td>708/1553 (45.6)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Abbreviations: BMI, body mass index; IQR, interquartile range.

a Discrepancies between the denominator for some of the categories and the number of pregnancies included in the study are due to missing data.

b BMI was calculated as weight in kilograms divided by height in meters squared.

c Race/ethnicity was assessed in the study as it has a well-established association with stillbirth and preterm birth outcomes. The categories for race/ethnicity were defined by the investigators and self-reported at the first hospital appointment during pregnancy.

d Includes any race/ethnicity not included in the listed categories.

Table 1. Comparison of Maternal and Pregnancy Characteristics Between the Prepandemic Period (October 1, 2019, to January 31, 2020) and the Pandemic Period (February 1, 2020, to June 14, 2020)
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