

Contemporary Issues in Women's Health

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CLINICAL CHARACTERISTICS AND OUTCOMES OF PREGNANT WOMEN WITH COVID-19 IN WUHAN, CHINA

Recently, global attention has been focused on COVID-19, a novel coronavirus that is responsible for 422 000 deaths worldwide as of June 12, 2020.¹ Until recently, very little was known about the effects of COVID-19 in pregnancy. Two other emerging coronaviruses, severe acute respiratory syndrome coronavirus (SARS-CoV), and the Middle East respiratory syndrome coronavirus (MERS-CoV) have been shown to severely affect pregnant women.^{2,3}

COVID-19 does not seem to have the same severe effects on pregnant women as SARS-CoV and MERS-CoV. In a recent article published in the *New England Journal of Medicine*,⁴ Chinese investigators in Wuhan, China report on disease severity among pregnant women diagnosed with COVID-19 and their outcomes. Data were abstracted through the National Health Commission of China, which stores the medical records of all 50 hospitals in Wuhan city.

Investigators identified 118 pregnant women diagnosed with COVID-19 between December 8, 2019 and March 20, 2020. Eighty-four (71%) of the women were diagnosed based on a positive PCR for COVID-19 and another 34 (29%) were diagnosed based on findings from CT of the chest. In total 112 (95%) of the women included in this cohort were symptomatic and more than 70% presented with fever and cough. Overall, 109/118 (92%) women presented with mild disease, 9 (8%) had severe disease defined as hypoxemia, and one woman was diagnosed with critical disease requiring noninvasive mechanical ventilation. At the time of the article, 109 of 116 (94%) of women had been discharged from the hospital and there were no maternal deaths. 68/118 delivered during the study period. 63/68 (93%) of women delivered by cesarean section. There were no stillbirths and no cases of neonatal asphyxia.

The authors conclude that the risk of severe disease in this pregnant group of women diagnosed with COVID-19 was 8% which is

lower than the incidence of severe disease in the general population in Wuhan with COVID-19⁵ and similar to the effects of influenza in pregnant women.⁶

This is the largest report of COVID-19 among pregnant women and although the results are reassuring, there is still much to learn about asymptomatic cases of COVID-19 among pregnant women, treatment, and neonatal outcomes in larger cohorts.

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SARS-COV-2 INFECTION AND PREGNANCY

We have been learning on a daily basis about COVID-19 or SARS-CoV-2 infection since the World Health Organization declared a global pandemic of this virus in March 2020.¹ With a greater number of confirmed cases, we are beginning to understand more about the

transmission, incidence and impact of SARS-CoV-2 infection in mothers and their babies. However, data remain limited. Pregnant women are not thought to be more susceptible to the infection than the general population,² but we know that pregnant women are especially vulnerable to infection in general due to their restricted cardiorespiratory capacity and relative immunosuppressed state. We also know that from previous virus epidemics such as severe acute respiratory syndrome-related coronavirus, Middle East respiratory syndrome-related coronavirus, and Zika virus, that there is an increased risk for adverse pregnancy or perinatal outcomes such as preterm birth, vertical transmission, fetal growth restriction, fetal anomalies, and death.^{3,4}

Most of the data that have emerged on SARS-CoV-2 infection and pregnancy outcome has been from case reports and small series. The majority of reported cases occurred at term and women were delivered by caesarean section predominantly for maternal indication, but also some cases of fetal distress. Most women developed mild or moderate symptoms including cough, fever and breathlessness, and only a small number developed severe disease.⁵⁻⁹ Risk factors were suggested to mirror those in the general population. By mid-April, one of the largest case series to date (n=43) reported that nearly two thirds of cases had a BMI ≥ 30 kg/m² and nearly half had comorbidities such as asthma (19%), type 2 diabetes (7%) or chronic hypertension (7%).⁵

A worldwide registry for SARS-CoV-2 infection in pregnancy across all continents has been developed,¹⁰ and the expectation is that data on outcomes from this registry are to be published soon. In the meantime, the UKOSS group have recently published the largest series to date (n=427).¹¹ This is a national cohort in the UK of pregnant women hospitalized with SARS-CoV-2 infection. Estimated incidence of hospitalization with confirmed SARS-CoV-2 in pregnancy was 4.9 per 1000 maternities. The median gestation at symptom onset was 34 weeks. Black or other minority ethnicity, older maternal age >35 years, overweight and obesity had a higher incidence of admission to hospital during pregnancy with the disease, compared to women with a normal BMI and pre-existing comorbidities. Nine percent of hospitalized women required respiratory support, and 73% of women gave birth at term. Only 5% of infants tested positive for SARS-CoV-2 RNA, with 50% of these testing positive within the first 12 hours after birth.

We are still learning about this devastating disease, but publications to date suggest that risks are not particularly increased when it is associated with pregnancy. Most pregnant patients had good outcomes and transmission of SARS-CoV-2 to infants was uncommon. As many countries have started to ease restrictions and allow the public to return to some level of normality, there is a real risk of a second wave. The more data we can collect in the interim, the better we may be prepared.

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