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Search Pack P200 (2023)
Coronavirus (COVID-19) in pregnancy (2023)

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P200 (2023) - Coronavirus (COVID-19) in pregnancy (2023)
(3)

2023-00405
Pregnancy outcomes and vaccine effectiveness during the period of omicron as the variant of concern, INTERCOVID-2022: a multinational, observational study. Villar J, Conti CPS, Gunier RB, et al (2023), Lancet 17 January 2023, online

Full URL: https://doi.org/10.1016/S0140-6736(22)02467-9

Background
In 2021, we showed an increased risk associated with COVID-19 in pregnancy. Since then, the SARS-CoV-2 virus has undergone genetic mutations. We aimed to examine the effects on maternal and perinatal outcomes of COVID-19 during pregnancy, and evaluate vaccine effectiveness, when omicron (B.1.1.529) was the variant of concern.
Methods
INTERCOVID-2022 is a large, prospective, observational study, involving 41 hospitals across 18 countries. Each woman with real-time PCR or rapid test, laboratory-confirmed COVID-19 in pregnancy was compared with two unmatched women without a COVID-19 diagnosis who were recruited concomitantly and consecutively in pregnancy or at delivery. Mother and neonate dyads were followed until hospital discharge. Primary outcomes were maternal morbidity and mortality index (MMMI), severe neonatal morbidity index (SNMI), and severe perinatal morbidity and mortality index (SPMMI). Vaccine effectiveness was estimated, adjusted by maternal risk profile.
Findings
We enrolled 4618 pregnant women from Nov 27, 2021 (the day after WHO declared omicron a variant of concern), to June 30, 2022: 1545 (33%) women had a COVID-19 diagnosis (median gestation 36·7 weeks [IQR 29·0–38·9]) and 3073 (67%) women, with similar demographic characteristics, did not have a COVID-19 diagnosis. Overall, women with a diagnosis had an increased risk for MMMI (relative risk [RR] 1·16 [95% CI 1·03–1·31]) and SPMMI (RR 1·21 [95% CI 1·00–1·46]). Women with a diagnosis, compared with those without a diagnosis, also had increased risks of SNMI (RR 1·23 [95% CI 0·88–1·71]), although the lower bounds of the 95% CI crossed unity. Unvaccinated women with a COVID-19 diagnosis had a greater risk of MMMI (RR 1·36 [95% CI 1·12–1·65]). Severe COVID-19 symptoms in the total sample increased the risk of severe maternal complications (RR 2·51 [95% CI 1·84–3·43]), perinatal complications (RR 1·84 [95% CI 1·02–3·34]), and referral, intensive care unit (ICU) admission, or death (RR 11·83 [95% CI 6·67–20·97]). Severe COVID-19 symptoms in unvaccinated women increased the risk of MMMI (RR 2·88 [95% CI 2·02–4·12]) and referral, ICU admission, or death (RR 20·82 [95% CI 10·44–41·54]). 2886 (63%) of 4618 total participants had at least a single dose of any vaccine, and 2476 (54%) of 4618 had either complete or booster doses. Vaccine effectiveness (all vaccines combined) for severe complications of COVID-19 for all women with a complete regimen was 48% (95% CI 22–65) and 76% (47–89) after a booster dose. For women with a COVID-19 diagnosis, vaccine effectiveness of all vaccines combined for women with a complete regimen was 74% (95% CI 48–87) and 91% (65–98) after a booster dose.
Interpretation
COVID-19 in pregnancy, during the first 6 months of omicron as the variant of concern, was associated with increased risk of severe maternal morbidity and mortality, especially among symptomatic and unvaccinated women. Women with complete or boosted vaccine doses had reduced risk for severe symptoms, complications, and death. Vaccination coverage among pregnant women remains a priority. (Author)

2022-10083
Pregnancy outcomes after administration of monoclonal antibody therapy for COVID-19. Martinez-Baladejo MT, Graul AB, Gifford T, et al (2023), American Journal of Obstetrics & Gynecology MFM vol 5, no 1, January 2023, 100761

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Full URL: https://doi.org/10.1016/j.ajogmf.2022.100761

OBJECTIVE: SARS-CoV-2 was initially identified in Wuhan, China, and was discovered to be the causative agent of COVID-19. Since then, it has spread throughout the world and was declared a pandemic in March 2020.

Novel treatments have been used in an attempt to reduce the severity, morbidity, and mortality of the disease. It has been shown that pregnant patients are at significantly higher risk of requiring hospital admission, mortality, and presenting perinatal complications because of COVID-19.1,2 An update from the Centers for Disease Control and Prevention found that pregnant patients were 4 times more likely to require invasive ventilation than nonpregnant patients of the same age. In addition, they uncovered significant health disparities. Pregnant Asian and Native Hawaiian or Pacific Islander women had higher intensive care unit admissions. Hispanics and African Americans also had disproportionate rates of SARS-CoV-2 infection and a higher risk of hospitalization.1,3

Based on results from randomized controlled trials, several antispike monoclonal antibodies (mAbs) received Emergency Use Authorization (EUA) from the US Food and Drug Administration (FDA) in 2021.4, 5, 6 However, pregnant patients were not included in the clinical trials, and the effects on pregnancy outcomes are unknown. In this case series, we described the outcomes of 47 pregnant patients who had confirmed COVID-19 and who received antispike mAb therapy. To the best of our knowledge, our study is the second largest report of this kind and includes the use of sotrovimab in 10 pregnant patients.

STUDY DESIGN: After institutional review board approval, we performed a retrospective cohort study of 47 pregnant patients aged ≥18 years who received mAb infusion for the treatment of mild-to-moderate COVID-19 between April 2021 to January 2022. We extracted the data from St. Luke's University Health Network electronic medical record system. Mild disease was characterized by fever, change of taste or smell, and cough. Moderate disease was characterized by dyspnea, evidence of disease on imaging, or oxygen saturation of ≥94%. Severe disease was characterized by viral symptoms (mentioned in the definitions of mild and moderate diseases) with additional shortness of breath, and very severe disease was characterized by respiratory failure or shock. All patients had a confirmed positive result of direct SARS-CoV-2 testing. Patients were selected for mAb therapy if they met the eligibility criteria based on EUA guidelines released by the FDA and additional criteria defined by our institutional protocol (Figure). Pregnant patients were monitored for adverse reactions at the injection site, headache, dizziness, fever, weakness, nausea, vomiting, pruritus, rashes, anaphylaxis, diarrhea, and low blood pressure. We defined tolerability as a low rate of side effects and low admission rates. Data analysis was completed using SPSS (version 28; International Business Machines Corporation, Armonk, NY). RESULTS: A total of 47 pregnant patients were included in the study. The characteristics of the patient population are displayed in Table 1. The patients' mean age was 30 years with most patients being White (85.1%). Most patients were obese (63.8%) and in their third trimester of pregnancy (57.4%). Most patients (46.8%) received bamlanivimab and etesevimab treatment, and 10 patients (21.3%) received sotrovimab.(Author)

2022-10082

Confirmation of preeclampsia-like syndrome induced by severe COVID-19: an observational study. Serrano B, Bonacina E, Garcia-Ruiz I, et al (2023), American Journal of Obstetrics & Gynecology MFM vol 5, no 1, January 2023, 100760

Full URL: https://doi.org/10.1016/j.ajogmf.2022.100760

BACKGROUND

Since the outbreak of the COVID-19 pandemic, some studies have reported an increased preeclampsia incidence in pregnant women with SARS-CoV-2 infection. Several explanations for this association have been proposed, including a preeclampsia-like syndrome induced by severe COVID-19. This syndrome was described in a small case series and has not been confirmed in larger studies, and its effect on perinatal outcomes has not been studied.

OBJECTIVE

This study aimed to confirm the preeclampsia-like syndrome because of COVID-19 and to investigate its implications on pregnancy outcomes and prognosis.

STUDY DESIGN

This was a prospective, observational study conducted in a tertiary referral hospital. The inclusion criteria were pregnant women admitted to the intensive care unit for severe pneumonia because of COVID-19. They were classified into 3 groups based on clinical and laboratory findings: preeclampsia, preeclampsia-like syndrome, and women

without preeclampsia features. The 3 cohorts were analyzed and compared at 3 different times: before, during, and after severe pneumonia. The main outcomes were incidence of adverse perinatal outcomes and signs and symptoms of PE, such as hypertension, proteinuria, thrombocytopenia, elevated liver enzymes, and increased angiogenic factors (soluble fms-like tyrosine kinase 1–to–placental growth factor ratio).
RESULTS
A total of 106 women were admitted to the intensive care unit because of severe pneumonia, and 68 women were included in the study. Of those, 53 (50.0%) did not meet the diagnostic criteria for preeclampsia and remained pregnant after pneumonia (non-preeclampsia); 7 (6.6%) met the diagnostic criteria for preeclampsia, had abnormal (>38) soluble fms-like tyrosine kinase 1–to–placental growth factor ratio (preeclampsia), and delivered during severe pneumonia, and 8 (7.5%) met the diagnostic criteria for preeclampsia, had normal (≤38) soluble fms-like tyrosine kinase 1–to–placental growth factor ratio (preeclampsia like), and did not deliver during pneumonia. Despite not having delivered, most preeclampsia-related features improved after severe pneumonia in women with preeclampsia-like syndrome. Women with preeclampsia had significantly poorer outcomes than women with preeclampsia-like syndrome or without preeclampsia.
CONCLUSION
More than 50% of women with severe COVID-19 and diagnostic criteria for preeclampsia may not be preeclampsia but a preeclampsia-like syndrome, which may affect up to 7.5% of women with severe COVID-19. Preeclampsia-like syndrome might have similar perinatal outcomes to those of normotensive women with severe pneumonia because of COVID-19. For these reasons, preeclampsia-like syndrome should be excluded by using soluble fms-like tyrosine kinase 1–to–placental growth factor ratio in future research and before making clinical decisions. (Author)

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