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Racial Disparities and Risk for COVID-19 Among Pregnant Patients: Results from the Michigan Statewide Collaborative

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OBJECTIVE: The aim of this study was to determine the obstetric and perinatal outcome in subsequent pregnancies after early previsible premature rupture of membranes (PPROM) in pregnant women treated with and without elective cervical cerclage.

STUDY DESIGN: A retrospective cohort study from a single tertiary center of all deliveries between 2011 to 2021. Inclusion criteria included spontaneous rupture of membranes before 24 week's gestation and a subsequent birth until 2021. Exclusion criteria included: cases with missing data; PPRM or preterm birth (PTB) in previous gestation; and emergency cerclage or multifetal gestation in subsequent pregnancy. Maternal and neonatal outcomes were determined in women with and without elective cervical cerclage in the subsequent pregnancy.

RESULTS: During the study period, 194 women presented with previsible PROM and 72 (37.1%) met inclusion and exclusion criteria.

In pooled analysis, median gestational age in the following pregnancy was 38+3 weeks (IQR 37.1-39.2). Seven (9.7%) women had recurrent premature PROM, two of which (2.8%) were previsible.

Seventeen (23.6%) women underwent elective cervical cerclage and were compared controls (n=55). Women with cerclage had a higher rate of PTB [9 (52.9%), vs 7 (12.7%); $p < 0.001$] and preterm PROM recurrence [5 (29.4%), vs 2 (3.6%); $p < 0.01$]. Median gestational age at delivery was 36.6 (IQR 35.2-38.4) and 38.3 (IQR 37.5-39.2) in the study and control groups, respectively ($p=0.01$).

Rates of major obstetric or perinatal morbidity did not differ between groups. Logistic regression analysis revealed elective cerclage remained significantly associated with higher rates of PTB [adjusted OR 6.4 (95% CI, 1.7-23.5)] after adjustment for maternal uterine anomalies and betamethasone treatment.

CONCLUSION: Elective cerclage based only on a history of previsible PROM in singleton pregnancies is associated with increased risk of PTB in subsequent pregnancy. Thus, a meticulous clinical assessment of pregnant women with previsible PPRM should be conducted in order to tailor the optimal treatment in the subsequent pregnancy.

281 Racial Disparities and Risk for COVID-19 Among Pregnant Patients: Results from the Michigan Statewide Collaborative



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OBJECTIVE: Previous studies have looked at COVID-19 outcomes in pregnancy and racial disparities among patients with COVID-19, but few have studied racial disparities among pregnant patients with COVID-19. Our goal in this study is to analyze the relationship between race and disparate COVID-19 risk in pregnancy.

STUDY DESIGN: A retrospective cohort analysis was performed on data collected as part of the COVID-19 in Pregnancy and The Newborn: State of Michigan Collaborative, a database of pregnant patients admitted to 14 institutions in Southern Michigan. Cases were defined as patients with a positive SARS-CoV-2 test result. Controls, those with suspicion of COVID-19 prior to universal screening or a negative PCR test, were matched to cases on the same unit within 30 days of each case. For this analysis, the two primary groups of interest were non-Hispanic Black (Black) vs. non-Hispanic White (White) patients. Potential covariates were age, body mass index (BMI), chronic hypertension, diabetes, asthma, substance use, and smoking; the dependent variable was COVID/non-COVID in a robust Poisson regression model. In addition, 18 symptoms and disease severity (mild/moderate/severe) were compared between the Black and White groups using the same statistical method.

RESULTS: Of 1,131 gravidas, 42.9% (n=485) were Black. These patients were at two-fold greater risk for COVID-19 compared with their White counterparts [35.9% vs. 18.3%, RR=1.96(1.6-2.4)]. After adjusting for obesity and diabetes, the risk of COVID-19 in Black patients remained higher compared to the risk among White patients (aRR=2.46 [1.87-3.24]). There were no differences in symptoms nor severity of disease presentation between the groups.

CONCLUSION: In our population, Black patients are more likely to be diagnosed with COVID-19 infection during pregnancy. This finding is not explained by a range of covariates. Other factors, such as social determinants of health, may be important to understand this disparity and warrant further examination.

282 Estimating gestational latency among individuals with a twin gestation undergoing physical exam-indicated cerclage



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OBJECTIVE: A recent randomized trial supports the efficacy of physical exam-indicated cerclage (PEIC) in twin gestations. Quantifying gestational latency PEIC is an important part of shared decision making and informed consent. Thus, our objective was to create a model for estimating gestational latency in the setting of PEIC in twin gestations.

STUDY DESIGN: This single-site retrospective cohort included all people with a twin gestation between 1985 and 2016 who underwent