

Preterm birth more common in unvaccinated pregnant patients with rheumatic disease and COVID-19

November 8 2022



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New research presented this week at ACR Convergence 2022, the American College of Rheumatology's annual meeting, found a greater

number of preterm births in unvaccinated versus fully vaccinated pregnant patients with rheumatic disease and COVID-19.

Preterm birth and low birthweight are more prevalent in patients with some types of rheumatic and musculoskeletal diseases , often due to higher disease activity during pregnancy. Less is known about [pregnancy outcomes](#) in women with [rheumatic diseases](#) and COVID-19 infection and even less about the effect of vaccination on outcomes. This study aimed to fill in some of those large gaps.

The study's researchers reviewed data on 73 pregnant patients who were entered in the COVID-19 Global Rheumatology Alliance registry from March 2020 to February 2022 along with follow-up surveys to healthcare professionals. The registry is an international case-reporting registry created at the beginning of the pandemic to help guide medical care for people who had rheumatic diseases or immunosuppression and COVID-19.

Outcomes were arranged according to the vaccination status of pregnant patients prior to COVID-19 infection. Those who received no [vaccine](#), or one dose were defined as unvaccinated or partially vaccinated. Patients who received two or more doses were defined as fully vaccinated. Of note, none of the participants received the single dose Johnson & Johnson vaccine.

Lupus was the most common RMD among the 73 pregnant patients (n=17) followed by rheumatoid arthritis (n=16). Nearly 70% of patients were in remission at the time of COVID-19 diagnosis; only 4.1% reported severe disease activity.

At the time data was extracted from the registry, 24.7% of the pregnancies were ongoing, while 50 of 55 completed pregnancies resulted in live births. The rest ended in miscarriage, stillbirth or

termination for the patient's health.

A majority of women, 44, were unvaccinated when diagnosed with COVID-19; three had received one dose and 26 had two or more doses. COVID-19 hastened delivery in nearly seven percent of unvaccinated women compared to nearly four percent of fully vaccinated women.

More striking were differences in neonatal outcomes. Among completed pregnancies, there were more preterm births in unvaccinated compared to vaccinated patients (29.5% vs. 18.2%, respectively). Low birth weight was the most frequent neonatal complication (24% of [live births](#)) followed by small for gestational age (14%).

"There is still much that is unknown and poorly understood about the pathogenesis of COVID-19. This is why this study is so important despite the small number of pregnancies included," says Sinead Maguire, MB BCh BAO MRCPI, a rheumatology fellow at Toronto Western Hospital in Canada and the study's lead author.

"Studies in the [general population](#) have demonstrated dysfunction of the renin angiotensin system driving increased rates of pre-eclampsia in pregnant women with COVID-19. Postpartum, placental fetal vascular malperfusion has also been noted on histology of women infected with COVID-19. It's unknown if or how the COVID-19 vaccine interferes with these processes. But [given the study results], we encourage COVID-19 vaccination in pregnant women with rheumatic diseases."

Dr. Maguire notes that in the study, only a few patients needed medication for COVID-19, regardless of vaccination status.

"Rates of hospitalization were also similar among all vaccination cohorts, although the prevalence of hospitalization was higher than anticipated, possibly for maternal and fetal monitoring. This would imply COVID-19

severity was similar between vaccinated and partially vaccinated or unvaccinated women. This was an unexpected result, given the differences in obstetric and neonatal outcomes," she says.

Dr. Maguire explains that the COVID-19 Global Rheumatology Alliance registry will create a summary of the study results and distribute them to patients and patient advocacy groups to encourage COVID-19 vaccination in rheumatology patients.

"The results can also be used in future studies to further capture the impact of COVID-19 vaccination on pregnancy outcomes in [rheumatic disease](#) patients," Dr. Maguire says.

The study's chief limitations were the small number of women and pregnancies included and the inability to adjust for confounding factors such as disease activity, comorbidities and medications. Its strengths include a diverse mix of ethnicities and rheumatic and musculoskeletal diseases, the reliability of the data and the inclusion of vaccination status in the data collection—"factors that provided a unique perspective of [pregnancy](#) in women with rheumatic disease in the setting of COVID-19."

More information: Conference abstract: acrabstracts.org/abstract/obst...y-alliance-registry/

Conference: www.rheumatology.org/Annual-Meeting

Provided by American College of Rheumatology

Citation: Preterm birth more common in unvaccinated pregnant patients with rheumatic disease and COVID-19 (2022, November 8) retrieved 19 April 2024 from

<https://medicalxpress.com/news/2022-11-preterm-birth-common-unvaccinated-pregnant.html>

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