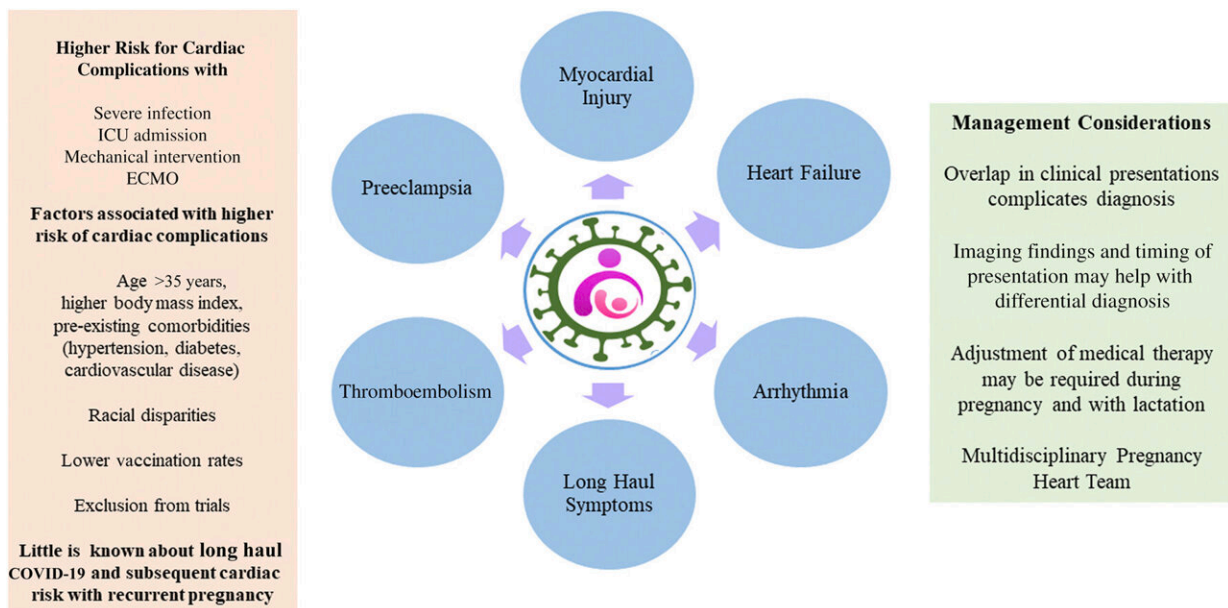


Pregnant women are at increased risk of severe illness, complications from COVID-19

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Graphical abstract. Credit: *JACC Advances* (2022). DOI: 10.1016/j.jacadv.2022.100057.

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COVID-19 infection in pregnant women is associated with increased risk of adverse outcomes compared to women who are not pregnant, according to a review published in *JACC: Advances* from the American College of Cardiology Cardiovascular Disease in Women Committee. Cardiovascular complications include heart attack, arrhythmias, heart

failure and long-haul symptoms that may be difficult to distinguish from other cardiac complications of pregnancy and require the cardiovascular care team to be vigilant when assessing pregnant women with COVID-19.

As COVID-19 cases increased globally, awareness of [cardiovascular complications](#) also increased, especially in certain high-risk populations. Heart attacks is estimated in up to 12% of patients. The Centers for Disease Control and Prevention (CDC) found pregnant women are at increased risk of adverse outcomes with COVID-19, including severe infection (10%), ICU admission (4%), mechanical ventilation (3%) and use of ECMO hemodynamic support (0.2%), compared with non-pregnant women of reproductive age. Additionally, pregnant patients who were of increased maternal age, high body mass index or had other pre-existing conditions such as chronic hypertension, pre-eclampsia and pre-existing diabetes, were at even higher risk for severe infection.

When compared to pregnant women without COVID-19, pregnant COVID-19 patients were at higher risk for pre-term birth and stillbirth. Overall, 33% of infants born to patients with COVID-19 were admitted to the [neonatal intensive care unit](#). No other differences have been found for perinatal outcomes.

A U.S. specific study found substantial racial disparities in outcomes for pregnant COVID-19 patients. While non-Hispanic Black women accounted for 14.1% of the study cohort, they represented 26.5% of [pregnancy](#)-associated deaths. Pregnancy was associated with a 2.4 times risk of death in Hispanic women with COVID-19 and pregnant Asian and Native Hawaiian/Pacific Islanders were among the highest risks of ICU admissions.

According to the authors, a reason for increased risk of cardiovascular complications is the low vaccination rate in pregnant women compared

to other groups. In a recent study of over 130,000 pregnant people over three quarters of those requiring hospital admission, the vast majority of patients requiring critical care and all fetal deaths occurred in unvaccinated compared with vaccinated women

"Pregnant people need to know that they are increased risk of a severe COVID-19 infection, including ICU admissions, cardiac complications, need for critical care and death for the patient or fetus. Unfortunately, pregnant women have lagged behind other groups getting vaccinated," said Joan Briller, MD, a cardiologist and professor of clinical obstetrics and gynecology at the University of Illinois at Chicago and the study's lead author. "Available data support vaccination in pregnancy with good safety profile and protective transfer to neonates. The CDC, American College of Obstetrics and Gynecology and Society of Maternal Fetal Medicine among others recommend vaccination in pregnancy. I believe we should support this recommendation with our patients."

The management of cardiac complications and diagnosis in pregnant COVID-19 patients can be challenging given the overlap of COVID-19 symptoms, [cardiovascular disease](#) and pregnancy. According to the authors, imaging findings and timing of presentation may be helpful in differentiation and determining diagnosis. Clinicians may also need to adjust medical therapy during pregnancy and lactation.

The authors suggest management of cardiac complications in pregnant COVID-19 patients requires the creation of a "Pregnancy Heart Team" to optimize care, which may include providers comfortable with high-risk pregnancy, obstetric anesthesia, cardiology, [critical care](#) and neonatal care, depending on the nature of the complication, stage of pregnancy and severity of infection.

"Recognition of cardiovascular complication is hampered by failure to include [pregnant women](#) in [clinical trials](#) despite calls for inclusion of

pregnant populations," Briller said. "Consequently, women may be undertreated or inadequately treated due to lack studies addressing safety and efficacy of therapies during pregnancy or conversely be exposed to therapies where safety is not known."

More information: Joan E. Briller et al, Cardiovascular Complications of Pregnancy-Associated COVID-19 Infections, *JACC Advances* (2022).

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