

Pregnancy-related hypertension can increase short-term risk of hypertension after pregnancy

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Women who experience gestational hypertension or preeclampsia have a 2.4-fold increased risk of developing hypertension 10 years post-pregnancy compared to women who did not experience any hypertensive disorders of pregnancy (HDP), according to a study published today in

the *Journal of the American College of Cardiology*. In addition, over half of people in the study, regardless of history of HDP met the criteria for at least stage 1 hypertension but had not received a formal diagnosis, highlighting the importance of screening in this population.

HDP impacts close to 20% of all pregnancies and is the leading cause of maternal death around the world. Research has shown that patients with a history of HDP have higher long-term risks of heart disease and stroke, with most events developing 20-30 years after [pregnancy](#). Five to 10 years post-HDP, many patients may be asymptomatic and not seeking care; however, they are still at increased cardiovascular risk and could benefit from preventative care.

Researchers in this study sought to evaluate the prevalence of cardiovascular risk factors and cardiovascular disease among women with and without a history of HDP 10 years prior. All women included underwent in-person visits with echocardiography, arterial tonometry and flow mediated dilation of the brachial artery. Assessments were completed for 135 patients, of which 84 did have a history of HDP and 51 did not; 85% of participants were Black.

"The importance of studying a more diverse population, including a larger percentage of Black patients, is of critical importance given that both HDP and CVD disproportionately affect Black women," said Lisa Levine, MD, MSCE, lead author of the study and director of the Pregnancy and Heart Disease Program at Hospital of the University of Pennsylvania in Philadelphia.

The study found patients with a history of HDP had a 2.4-fold increased risk of new hypertension compared to those who did not have HDP (56% vs. 23.5%), but there was no association with other CV risk factors like diabetes or obesity nor were there differences in non-invasive subclinical measures of CV risk, including measures of left ventricular

structure, global longitudinal strain or endothelial function.

Researchers said differences in subclinical measures were mostly driven by whether the patient had a hypertension diagnosis, regardless of HDP history, which suggests that hypertension itself explains a large portion of future CV risk for women with a history of HDP.

While an increased risk of hypertension after HDP is not a new finding, researchers said this is the most comprehensive study to date of cardiac risk factors and [cardiovascular disease](#) in patients with a prior history of HDP. Other studies have been limited by small cohort sizes, a lack of racial diversity and a limited assessment of broad CV phenotyping.

Further, they found that more than 80% of patients in the study with prior HDP and 60% without a history of HDP had either stage 1 or stage 2 hypertension. Of those patients, only 39% with prior HDP had been formally diagnosed before being screened as part of the study.

"[Our trial] along with studies with similar findings, further highlights the importance of routine screening for hypertension in this population," Levine said. "Future studies should evaluate the optimal time period to screen for postpartum hypertension and a monitoring plan for these at-risk women."

In an accompanying editorial comment, Josephine Chou, MD, MS, director of cardio-obstetrics and co-director of maternal cardiology at Yale University School of Medicine, said this study is a laudable contribution to understanding of HDP and [hypertension](#) within the first decade after pregnancy.

"[This study] paves the way for future efforts to improve postpartum CV care, enabling us to grasp this opportunity of a lifetime to ultimately reduce maternal and pregnancy-related morbidity and mortality."

More information: Lisa D. Levine et al, Prospective Evaluation of Cardiovascular Risk 10 Years After a Hypertensive Disorder of Pregnancy, *Journal of the American College of Cardiology* (2022). [DOI: 10.1016/j.jacc.2022.03.383](https://doi.org/10.1016/j.jacc.2022.03.383)

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