

# High blood pressure and pregnancy: Short- and long-term consequences

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Two studies from the Mayo Clinic presented during the American Society of Nephrology's Annual Kidney Week provide new information related to high blood pressure during pregnancy.

In one study, Vesna Garovic, MD and her team examined the potential of a test done mid-pregnancy to predict which women will later develop [preeclampsia](#), a late-pregnancy disorder that is characterized by high blood pressure and [excess protein](#) in the urine and that affects 3% to 5% of pregnancies. Left untreated, preeclampsia can lead to serious -- even fatal -- complications for a [pregnant woman](#) and her baby.

Among a group of 315 patients, 15 developed preeclampsia and 15 developed high blood pressure (but not preeclampsia) during pregnancy. All of the patients who developed preeclampsia tested positive in mid-pregnancy for a test that detects the shedding of certain [kidney cells](#) called podocytes in the urine. None of those with only high blood pressure tested positive, and none of 44 women with normal pregnancies tested positive. Therefore, this test is highly accurate for predicting preeclampsia, which could alert clinicians to take steps to safeguard against the condition.

In another study, Dr. Garovic's team looked at the long-term health effects of high blood pressure during pregnancy. They identified female residents of Rochester, Minnesota and the surrounding townships in Olmsted County who delivered between 1976 and 1982. The investigators divided the women into two groups -- those with high blood

pressure during pregnancy and those without -- and followed them after they reached 40 years of age to monitor their heart and kidney health.

A total of 6,051 mothers delivered between 1976 and 1982, and 607 women had high blood pressure at the time while 5,444 did not. After the women reached age 40, women who had high blood pressure during pregnancy were much more likely to experience high blood pressure, [kidney disease](#), and strokes than women who did not have [high blood pressure](#) during pregnancy (51% vs 31%, 14% vs 10%, and 8% vs 4%, respectively).

"Studies of the associations of hypertensive pregnancy disorders with maternal risks for future cardiovascular disease could lead to new guidelines for screening and treatment of women at risk, with the ultimate goal of improving cardiovascular health in women," said Dr. Garovic.

**More information:** Study authors for "Podocyturia Is an Early Marker That Distinguishes among Normotensive Pregnancy, Gestational Hypertension, and Preeclampsia" (abstract FR-OR292) include Steven Wagner, MD, Iasmina Craici, MD, Juan C. Calle, MD, Christina Wood-wentz, Kent R. Bailey, PhD, Stephen T. Turner, MD, Joseph P. Grande, MD, PhD and Vesna D. Garovic, MD.

Study authors for "Women with a History of Hypertensive Pregnancy Disorders Are at Increased Risk for Future Cardiovascular and Renal Disease: A Population-Based Cohort Study" (abstract TH-OR115) include Catherine M. Brown, MD, Slavica Katusic, Cynthia L. Leibson, Jeanine Ransom, Stephen T. Turner, MD, Veronique L. Roger and Vesna D. Garovic, MD.

Provided by American Society of Nephrology

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