

Pregnancy complications are a stress test for future maternal health and pregnancies

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Predicting whether pregnancy complications affect long-term maternal health as well as future pregnancies is at the heart of two studies conducted by researchers in the Department of Obstetrics, Gynecology and Reproductive Sciences at Yale School of Medicine.

The first study, published in the journal *Hypertension*, showed that women who have had two pregnancies complicated by preeclampsia are at a higher risk of hypertension after pregnancy.

Working in collaboration with the University of Copenhagen in Denmark, senior author Michael Paidas, M.D., and his team conducted a retrospective study of over 11 million women who gave birth in Denmark from 1978 to 2007. Their findings showed that among women with preeclampsia, a complication of pregnancy linked to life-threatening cardiovascular disease, the risks of subsequent hypertension risks were compounded with each affected pregnancy. Only healthy women without any other previously identified medical problems were included in the study.

"The only reliable treatment for preeclampsia is delivery of the baby," said Paidas, associate professor and co-director of Yale Women and Children's Center for Blood Disorders, Department of Obstetrics, Gynecology & Reproductive Sciences. "But while delivery may 'cure' preeclampsia in the moment, these mothers are at high risk of chronic [hypertension](#), type 2 diabetes mellitus and blood clots for the rest of their lives. Pregnancy acts like a natural stress test for women."

Paidas said the research adds to growing data on the link between hypertensive pregnancy disorders, diabetes, cardiovascular disease and maternal death. Paidas and the research team are conducting ongoing studies to explore the genetic links between [pregnancy complications](#),

cardiovascular disease and diabetes.

"Physicians and other healthcare professionals should be encouraged to include the history of a woman's pregnancy outcomes when estimating the risk of cardiovascular disease," said Paidas. "Identifying women soon after a hypertensive pregnancy will alert care providers to the increased risks of heart disease, diabetes and blood clotting and allow prompt intervention." In light of this new information, Paidas also urges care providers to exercise caution when prescribing oral contraceptives to women with hypertensive pregnancy complications.

In a second study published in the journal *Obstetrics & Gynecology*, using the same Danish Registry, Paidas and his team found that preterm delivery, preeclampsia and low-birth weight tend to recur and predispose to each other in a second pregnancy. The severity of the complication in the first pregnancy further increases these risks.

For example, women whose first delivery occurred full term had a 2.7% risk for having a preterm delivery in the second pregnancy. However, if their first pregnancy resulted in a delivery between 32 and 36 weeks of gestation, the risk of a preterm delivery in the second pregnancy increased to 14.7%. Similarly, if their first pregnancy resulted in an even earlier preterm delivery—between 28 and 32 weeks of gestation—the risk of a preterm delivery in the second pregnancy increased to 25.4%. Delivery between 20 and 27 weeks in the first pregnancy doubled the risk for delivering a baby that was small for gestational age in the second pregnancy.

"Our data from this study suggest that spontaneous preterm delivery, [preeclampsia](#), low fetal growth, placental abruption and stillbirth in a first and second pregnancy are interrelated," said Paidas. "Perhaps they all may be features of a 'placenta-associated syndrome.' Healthy women with a

significant pregnancy complication that is considered part of the placenta-associated syndrome are vulnerable in the second [pregnancy](#). Therefore care providers should tailor surveillance, prevention and/or treatment interventions in these patients."

Source: Yale University ([news](#) : [web](#))

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