Preeclampsia during pregnancy increases stroke risk later in life

April 26 2021

Credit: Unsplash/CC0 Public Domain

Women who have preeclampsia during pregnancy are at least three times more likely to have strokes later in life than women who do not have a history of this condition, according to University of Utah Health

scientists. Based on this finding, the researchers recommend that women who have had preeclampsia should be carefully monitored in the years after it occurs.

"Our study strongly suggests that, for women who have a history of preeclampsia, physicians should consider aggressive treatment of midlife vascular risk factors, including high blood pressure and elevated cholesterol and glucose levels," says Adam de Havenon, M.D., lead author of the study and an assistant professor of neurology at U of U Health. "Doing this could potentially reduce the risk of these women having strokes."

The study appears in *JAMA Network Open*.

Preeclampsia occurs in about one in 25 pregnancies in the United States, according to the Centers for Disease Control and Prevention. It happens when a woman who previously had normal blood pressure suddenly develops high blood pressure and protein in her urine or other problems after 20 weeks of pregnancy. Left untreated, preeclampsia can lead to serious complications for both mother and child.

Previous research found an association between preeclampsia and stroke but did not follow women through midlife or track the development of risk factors for stroke such as high blood pressure, cholesterol, blood glucose, or smoking.

In their study, de Havenon and colleagues analyzed data from 1,435 women who had given birth and participated in the Framingham Heart Study, an epidemiological study that followed a group of individuals over time to determine the natural history of cardiovascular diseases, including stroke. The health of participants was evaluated every two years, from 1948 to 2016.

None of the women had had a stroke prior to enrollment in the Framingham study. However, 169 of them had preeclampsia prior to participation. Women who had this condition were more likely to be younger, smoke, have higher diastolic blood pressure, and receive treatment for high cholesterol than other women evaluated.

Over an average follow-up of 32 years, 231 women had a stroke. After accounting for the development of traditional vascular risk factors over time, a history of preeclampsia was found to be independently associated with about a 3.8-fold higher risk for having stroke later in life.

Although the researchers acknowledge that much remains unknown about the association between preeclampsia and stroke, they suspect preeclampsia may cause more long-term damage than previously thought, making a woman more susceptible to stroke as she ages.

"Preeclampsia is a complicated disease involving injury to the lining of the blood vessels," says Lauren Theilen, M.D., MSCI, senior author of the study and an assistant professor of obstetrics and gynecology at U of U Health. "We used to think it just happened while you were pregnant, then it healed afterward. But preeclampsia may be doing lasting damage to the blood vessels."

The current study has many of the same limitations as the original Framingham Heart Study. Among them is that preeclampsia was self-reported. As a result, some women may not have disclosed that they had had the condition. The Framingham study also did not enroll non-White women, making it hard to generalize these findings to other racial or ethnic groups. Information about physical activity and diet, two factors that could affect vascular health in midlife, weren't available.

Moving forward, Theilen is exploring various physiological mechanisms that could help explain how and why preeclampsia, in conjunction with

other vascular risk factors, increases stroke risk among women.

More information: *JAMA Network Open* (2021). DOI: 10.1001/jamanetworkopen.2021.5077

Provided by University of Utah Health Sciences

Citation: Preeclampsia during pregnancy increases stroke risk later in life (2021, April 26) retrieved 26 April 2024 from https://medicalxpress.com/news/2021-04-preeclampsia-pregnancy-life.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.