Young-onset dementia refers to a condition where dementia is diagnosed before the age of 65 years. It is a diagnosis that can alter the world for not only those affected but also those around them. Young-onset dementia disrupts careers and social networks, strains partnerships and parenthood, and causes considerable caregiver burden. Olié et al. conducted a large, nationwide, prospective cohort study of nearly 2 million births and found a 2.65-fold (hazard ratio, 2.65; 95% CI, 1.34-5.25) increased risk of young-onset dementia after pregnancies complicated by a hypertensive disorder. Should individuals who have had preeclampsia be worried?

For 2 centuries, clinicians have appreciated the worrisome consequences of high blood pressure and proteinuria appearing during pregnancy. These symptoms herald the onset of preeclampsia, a major obstetric complication that not only causes serious morbidity but also threatens the lives of both the pregnant individual and the unborn child.

Then, over the last 2 decades, the life-long health consequences of preeclampsia have come into sharp focus. Individuals who experienced a hypertensive disorder during their pregnancy incur a doubling, or more, of already common adult-onset vascular health conditions of later life, including hypertension (3.1-fold increased risk), coronary heart disease (2.5-fold increased risk), heart failure (4.2-fold increased risk), cardiovascular disease death (2.2- to 2.3-fold increased risk), and stroke (1.8-fold increased risk). These risks are so consequential that many international clinical guidelines, such as the American Heart Association, now recognize that previous preeclampsia is an important risk factor for later cardiovascular diseases.

Now, over the past 2 years, 3 meta-analyses have identified yet another disease associated with preeclampsia: dementia in later life. Those studies concluded that having had a previous hypertensive disorder of pregnancy (which is preeclampsia in most cases) incurs a 1.31- to 1.38-fold increased risk of dementia (1 meta-analysis identified a 1.15-fold increased risk that was not statistically significant) and a 1.6- to 3.1-fold increased risk of vascular dementia. The concept is quite new because the oldest studies included in any of these meta-analyses were published in 2015. All 3 meta-analyses were dominated by 2 large cohort studies, 1 from Denmark (1.2 million participants) and 1 from Sweden (1.1 million participants).

Olié et al. now report that the risk of young-onset dementia is increased after preeclampsia. They used data from the French Conception study, a nationwide prospective study in which 1.966.323 pregnancies were followed-up for a mean of 9 years. The team found that having had preeclampsia incurred a 2.65-fold increased risk of young-onset dementia compared with unaffected pregnancies. Furthermore, the hazard ratio increased to 4.15 (95% CI, 1.30-13.14) if the preeclampsia occurred at a preterm gestation. This latter observation adds plausibility that the link is real. The risk of many cardiovascular diseases increases greatly if preeclampsia occurs preterm, a more severe pathological variant compared with preeclampsia diagnosed toward the end of pregnancy (term gestation).

Within the limited description of a research letter format, this seems a well-executed epidemiological study. Its great strength is the size of the cohort—just under 2 million observations—which enabled the team to explore a rare condition. Furthermore, the authors were able to offer further insights by splitting the cohort into subtypes of hypertensive disorders of pregnancy. The study was limited by the usual boundaries of epidemiological studies in that it relied on hospital records to identify their primary outcome. It is possible there were cases among the population studied that were missed.
This is a novel study because it identifies an association between a new disease and preeclampsia. Now that we know, what are we to do with this new knowledge? Should individuals with a past episode of preeclampsia be concerned about developing young-onset dementia before their child has even reached secondary school?

A global prevalence study of young-onset dementia concluded the absolute risks of developing the condition during child-bearing years (age 30-45 years) is approximately 1.0 to 3.8 per 100,000 population (or 0.001 to 0.0038%). The incidence of dementia in the current study was roughly similar, at 128 cases in the population of 1,966,323 individuals, or 6.5 cases per 100,000 population. Hence, individuals who have had preeclampsia should be reassured that young-onset dementia remains a very rare condition. Their absolute risk increases only imperceptibly. This remains true even if the actual lifetime hazard ratio is higher, which could come to light only if the team monitors their population for longer.

Instead, individuals who have been affected by preeclampsia in a prior pregnancy might instead focus on reducing their risk of developing the many chronic health ailments that are far more common. Although it is yet to be proven in clinical trials, it is plausible that after an episode of preeclampsia, adopting a healthy lifestyle may improve vascular health and reduce the risk of many serious cardiovascular conditions. Furthermore, if the pathology causing an increased dementia risk is also mediated through poor vascular health, a healthy lifestyle may also mitigate this risk, too. If so, then the message is clear—healthy diet, regular exercise, and engaging with primary health care physicians may reduce the risk of all these conditions associated with preeclampsia in one fell swoop.

ARTICLE INFORMATION
Published: May 30, 2024. doi:10.1001/jamanetworkopen.2024.12780
Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2024 Tong S et al. JAMA Network Open.

Corresponding Author: Stephen Tong, PhD, Department of Obstetrics and Gynaecology, University of Melbourne, 163 Studley Rd, Heidelberg, VIC 3084, Australia (stong@unimelb.edu.au).

Author Affiliations: Department of Obstetrics and Gynaecology, University of Melbourne, Melbourne, Victoria, Australia; Mercy Perinatal, Mercy Hospital for Women, Heidelberg, Victoria, Australia.

Conflict of Interest Disclosures: None reported.

REFERENCES