DIABETES

Pre-eclampsia: association with increased risk of diabetes

A population-based study of >1 million women has found that women with pre-eclampsia or gestational hypertension have a twofold increased risk of developing diabetes after pregnancy. Denise Feig and colleagues also found that the presence of pre-eclampsia or gestational hypertension together with gestational diabetes was associated with a further elevation in diabetes risk, beyond that seen with gestational diabetes alone. “These findings highlight a possible new risk factor for diabetes, and support the need to counsel patients with hypertensive disorders of pregnancy regarding postpartum diabetes screening prevention,” say the researchers.

Gestational diabetes is a known risk factor for the future development of diabetes. “Since insulin resistance is a key component of diabetes, we wondered whether pre-eclampsia and gestational hypertension, which are also associated with insulin resistance, would increase an individual’s risk of developing diabetes,” explains Feig.

In their retrospective cohort study, Feig *et al.* used hospital records and outpatient data to categorize 1,010,068 women who gave birth in Ontario, Canada between 1994 and 2008, as having either pre-eclampsia, gestational hypertension, gestational diabetes, or a combination of these disorders. Women were followed until 2011 and assessed for the development of diabetes.

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Over a median follow-up of 8.5 years (range 1 day to 16.5 years), the researchers identified 22,933 cases of pre-eclampsia alone, 27,605 cases of gestational hypertension alone, 30,852 cases of gestational diabetes alone, 2,100 cases of gestational diabetes plus gestational hypertension, and 1,476 cases of gestational

diabetes plus pre-eclampsia. 35,077 (3.5%) of women developed diabetes.

After adjusting for various factors, both pre-eclampsia and gestational hypertension alone were identified as risk factors for the development of diabetes (hazard ratios [HRs] 2.08 and 1.95, respectively). Gestational diabetes markedly increased the risk of developing diabetes (HR 12.77), and the presence of pre-eclampsia or gestational hypertension in addition to gestational diabetes increased this risk further (HRs 15.75 and 18.49, respectively). “By identifying future risks in women with disorders during pregnancy, we have a perfect opportunity to develop strategies to intervene early in these processes in order to prevent future disorders from developing,” says Feig.

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Original article Feig, D. S. *et al.* Preeclampsia as a risk factor for diabetes: a population-based cohort study. *PLoS Med.* 10, e1001425 (2013)