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Gestational diabetes mellitus (GDM) can put both the mother and developing fetus at risk of developing long-term health complications, and therefore at-risk mothers should be screened. Currently, however, the diagnostic criteria for defining GDM in early pregnancy are insufficient. Now, new research suggests that combining an analysis of the plasma levels of angiotensin-like protein 8 (ANGPTL8) of pregnant women with present diagnostic criteria for GDM improves prediction rates.

In the clinic, effective biomarkers for predicting GDM are currently lacking. Clinicians currently rely

on an assessment of established maternal risk factors for GDM, such as age at pregnancy and family history of diabetes mellitus, in combination with a 75 g oral glucose tolerance test (OGTT), which is the gold standard for diagnosing GDM. The OGTT, however, cannot be conducted until late in the second trimester, which can result in a developing fetus being exposed to hyperglycaemic conditions for a long period of time.

Plasma levels of ANGPTL8 are associated with insulin resistance, and a preliminary study conducted by Fang, Hu and colleagues showed

that levels of ANGPTL8 in the plasma are elevated in pregnant women during the second trimester. Based on these results, the authors speculated that the levels of ANGPTL8 in the plasma of women who develop GDM might increase in early pregnancy and be linked to the development of insulin resistance.

In the present prospective study, the authors recruited 474 women who were between weeks 12 and 16 of gestation and measured their fasting plasma levels of glucose. Between weeks 24 and 28 of gestation, all participants received a 75 g OGTT. The authors report that increased levels of ANGPTL8 were associated with an increased risk of developing GDM, independent of maternal age, BMI and other established risk factors. The authors found that combining an assessment of the levels of ANGPTL8 with an assessment of conventional risk factors markedly improved their prediction of future GDM.

Fang and Hu now plan to investigate the relationship between plasma levels of ANGPTL8 and the postpartum glucose regulation status of expectant mothers. “We hope that measuring levels of ANGPTL8 in early pregnancy will help us identify mothers who are at risk of developing GDM, and enable us to implement early intervention strategies to reduce their risk of developing this condition,” conclude Fang and Hu.

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