

Overgrowth of baby in the womb may begin weeks before women are tested for maternal diabetes

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The excessive growth of a baby in the womb, a common complication of gestational diabetes, begins weeks before women are tested for the disease, according to new research being presented at this year's European Association for the Study of Diabetes (EASD) Annual Meeting in Barcelona, Spain (16-20 September).

The analysis of almost 8,000 singleton pregnancies in South Korea revealed that in [women](#) subsequently diagnosed with gestational [diabetes](#), abdominal fetal growth was already abnormally large between 20 and 24 weeks—more than 4 weeks before the recommended screening time.

Given the high risk of complications for both mother and baby from maternal diabetes, screening women earlier on in [pregnancy](#) is likely to improve their health outcomes, researchers say.

"Abdominal overgrowth of the baby in the womb is believed to indicate fetal obesity, not just a big baby", explains Dr. Yoo Lee Kim from CHA University, Republic of Korea who led the research. "Our findings suggest that diagnosing gestational diabetes and implementing interventions to reduce the risk of excessive fetal growth such as diet and exercise earlier in pregnancy may be necessary to prevent harm to mothers and their babies."

Gestational diabetes, a temporary form of diabetes in which hormonal changes disrupt insulin function, affects 3-20% of pregnant women, with those who are obese and/or older at greater risk. Women who develop gestational diabetes are seven times as likely to develop type 2 diabetes in the years following pregnancy. If left undiagnosed and untreated, the condition can also cause the unborn child to have increased birthweight, higher body

fat, and lower insulin sensitivity, and increases the likelihood of obesity and diabetes in later life.

Current guidelines in South Korea, the UK, and USA recommend that all pregnant women are screened for gestational diabetes using an oral glucose test at 24-28 weeks of pregnancy. However, previous research suggests that excessive fetal growth can already be detected at the time of screening (24-28 weeks), especially in [older women](#) and those with obesity. Whether the onset of this fetal growth disorder predates the recommended screening time is unclear.

To determine whether fetal overgrowth is already present at 20-24 weeks' gestation, researchers analysed medical records of 7,820 [pregnant women](#) attending the outpatient clinic of Cha Gangnam Medical Center in Seoul, Korea. Ultrasound scans were used to measure the fetuses' abdominal circumference, head size, and femur length at least 4 weeks before screening for gestational diabetes (at 22 weeks' gestation; 7297 scans), at the same time as the screening test (26 weeks; 5388 scans), and at near term (35 weeks; 5404 scans).

At the 22nd week of pregnancy, [ultrasound scans](#) revealed that the fetuses of mothers subsequently diagnosed with gestational diabetes were already significantly larger in abdominal circumference than the babies of women with normal glucose tolerance, and they remained abnormally large through the 35th week of pregnancy. However, head size and femur length were not significantly different between the two groups.

Even among women without diabetes, the babies of mothers who were older or obese were at far greater risk of being abnormally large in abdominal circumference at the 22 week scan, but not in

younger and non-obese women.

Dr. Kim concludes: "Early [screening](#) and careful monitoring may be particularly beneficial for obese and older mothers, as fetal abdominal growth is already abnormal at 5 months in these high-risk women, meaning that their [babies](#) are already large at the time of diagnosis."

This is an observational study, so no firm conclusions can be drawn about cause and effect, and the authors point to several limitations including that the study was done in a single centre in South Korea which could affect the generalisability of the results. Additionally, they could not determine exactly why the fetuses of women with [gestational diabetes](#) were larger than fetuses in the non-diabetic group.

Provided by Diabetologia

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