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Press release
For immediate publication

Graz researchers demonstrate how early treatment of gestational diabetes prevents complications

Graz, 18 July 2024: Gestational diabetes is one of the most common complications of pregnancy worldwide. Around 14 percent of all expectant mothers are affected. In recent decades, research has mainly concentrated on later stages of pregnancy (weeks 24 to 28). Yet new findings from a 2023 Australian study have shown that the foundation for complications has already been laid prior to week 20 and thus countermeasures should be taken early on. An editorial as well as a three-part series of publications in The Lancet journal have drawn attention to the prevention and treatment of gestational diabetes. Sports scientist Mireille van Poppel (University of Graz) and biochemist Gernot Desoye (Med Uni Graz) of Graz were involved in this research.

A global problem

It used to be thought that only consumption of nicotine, alcohol and drugs during pregnancy led to problems, but many more factors play a role. Intensive research into gestational diabetes is currently being conducted. "The increasing number of women with gestational diabetes can be attributed to factors such as being overweight, stress and an unhealthy lifestyle. In addition, environmental pollution such as particulate matter or certain chemicals may contribute to the development of gestational diabetes," explains Gernot Desoye. "While the glucose metabolism of the mother returns to normal after the delivery, the child may suffer from long-term consequences such as diabetes, cardiovascular disease or obesity," stresses Mireille van Poppel. "If the fetus has to constantly process glucose in the womb, it produces more insulin, which may result in cellular damage."

Early diagnosis as the key to prevention

Gestational diabetes has been regarded as a complication of the last trimester. However, current research shows that the disease and its precursors can be diagnosed earlier in 30 to 70 percent of all cases. Proper nutrition and sufficient exercise lower the risk even before week 20. "While the pathophysiology of gestational diabetes in the second half of pregnancy has been well researched, we lack basic knowledge of it at the start of pregnancy," explains Gernot Desoye.

Advantages for pregnant women and the child

Pioneering Minds - Research and Education for Patients' Health and Well-Being

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"It is important to test pregnant women with risk factors for gestational diabetes and initiate any necessary treatment early on, in the best case before week 14 of the pregnancy. Early detection and an improvement in lifestyle with healthier eating, more exercise and less sitting can contribute to a reduction in the risk of complications," say Mireille van Poppel and Gernot Desoye. Their recently published commentary may be read in *The Lancet Diabetes Endocrinology*. Women who suffer from gestational diabetes should also receive an annual checkup after the delivery to allow early detection of any subsequent complications such as type 2 diabetes or cardiovascular disease.

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To the series of publications:

<https://www.thelancet.com/series/gestational-diabetes>

Profile of Mireille van Poppel

For over 20 years, Mireille van Poppel has studied the effects of exercise and its promotion during pregnancy including for the prevention of gestational diabetes. She was responsible for developing and evaluating interventions in the EU project DALI and has been involved in other international projects on the topic of a healthy lifestyle during pregnancy.

Profile of Gernot Desoye

Gernot Desoye has conducted research on different aspects of gestational diabetes for nearly 40 years and most recently on processes above all in the early stage of pregnancy and how they influence placental development. His work has been honored with several notable national and international research awards. Desoye coordinated the EU project DALI and has been involved in further EU projects on this topic. He served as an ad hoc expert for the European Parliament and worked for the EU Commission. He has also edited scientific journals.