Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/maternal-overweight-risk-factor-childhood-leukemia-daughters

Maternal overweight as risk factor for childhood leukemia in daughters

The weight of expectant mothers could play a role in the development of acute lymphoblastic leukemia (ALL) in daughters – but not in sons. This has been shown by researchers at the German Cancer Research Center (DKFZ).

Acute lymphoblastic leukemia is rare overall, but accounts for about a quarter of childhood cancers. To identify possible risk factors, a team led by Mahdi Fallah, DKFZ, together with colleagues from Lund University, analyzed data from almost 3 million births in Sweden over a period of 35 years. The data was taken from the Swedish nationwide family cancer registry.

During the study period, a total of 1,388 children in Sweden developed ALL. The results show that girls whose mothers were overweight or obese (BMI 25 and above) at the beginning of pregnancy had a 40 percent increased risk of developing ALL.

"Our results were also surprising to us," says Mahdi Fallah, lead scientist of the study. "They suggest that maternal obesity could be an overlooked risk factor for childhood leukemia – and that it is gender-specific."

The researchers suspect that hormonal influences, particularly elevated estrogen levels during pregnancy, could play a role. Estrogens have been shown to affect gene expression and could increase the risk of leukemia in female offspring.

Encouragingly, the study showed no association between weight gain during pregnancy and ALL risk, which is a relief for expectant mothers concerned about their pregnancy weight gain.

The scientists are now planning further investigations to better understand the biological mechanisms behind this surprising sex-specific phenomenon. In the long term, the findings may lead to new prevention strategies. "Pregnancy is a crucial phase for a child's health," emphasizes Fallah. "Our results underscore the importance of educating expectant mothers about healthy lifestyle habits early on – not only for their own well-being, but also for that of their children."

Publication:

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