Gut microbiome tied to metabolic hormones in early pregnancy

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(HealthDay)—In overweight and obese women, gut microbiome

composition is associated with the metabolic hormonal environment at 16 weeks of gestation, according to a study published in the May issue of *Diabetes*.

Luisa F. Gomez-Arango, from the University of Queensland in Brisbane, Australia, and colleagues assessed fecal microbiota profiles from 29 overweight and 41 obese pregnant women by 16S rRNA sequencing. Multiplex enzyme-linked immunosorbent assays were used to measure fasting metabolic hormone concentrations.

The researchers found that overweight and obese women had different metabolic hormone levels and microbiome profiles. There were correlations for some metabolic hormone levels with alterations in the relative abundance of specific microbes. There was a strong correlation for adipokine levels with *Ruminococcaceae* and *Lachnospiraceae*. A positive correlation was seen for insulin with the genus *Collinsella*. In addition, gastric inhibitory polypeptide had a positive correlation with the genus *Coprococcus* and a negative correlation with family *Ruminococcaceae*.

"This study shows novel relationships between gut microbiome composition and the metabolic hormonal environment in overweight and obese pregnant women at 16 weeks gestation," the authors write. "These results suggest that manipulation of the gut microbiome composition may have the potential to influence pregnancy metabolism."

The SPRING study received probiotics and placebo products from Chr. Hansen A/S.

More information: Full Text (subscription or payment may be required)