Type 1 diabetes modifies gut microbiome during pregnancy

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Video Byte

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Abstract

The community of microorganisms that colonize our gut is an adaptive one. It changes with environment, disease, and major life events. But one life event that has remained underexplored by microbiome science is pregnancy, especially in women with type 1 diabetes, which poses a health risk to both mother and fetus. To address this gap, researchers recently examined gut microbiome composition across 70 pregnancies, 36 of them involving women with type 1 diabetes. Women with diabetes demonstrated a shift towards a more pro-inflammatory gut microbiome during pregnancy, showing an increase in bacteria that produce lipopolysaccharides, which promote inflammation; decreased concentrations of short-chain fatty acids, which protect against inflammation; and increased serum levels of the protein I-FABP, an indicator of organ wall damage. These changes could contribute to pregnancy complications in women with type 1 diabetes, but might be modified through the diet.