Study finds cervicovaginal microbiota differs in women to have preterm birth

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In a study to be presented on Feb. 6 at the Society for Maternal-Fetal Medicine's annual meeting, The Pregnancy Meeting, in New Orleans, researchers will report that cervicovaginal (CV) microbiota differs in the late second and early third trimester in women destined to have a preterm birth.

The study tested vaginal swabs from pregnant women in the late second trimester (20-24 weeks) and early third trimester (24-28) weeks of pregnancy, and compared the CV biospecimens of women who ultimately had a preterm birth to those who had a term birth.

Using DNA obtained on those swabs, the microbial communities were characterized by community state types (CSTs) using state-of-the-art technology. CST I are dominated by Lactobacillus crispatus, traditionally considered a beneficial bacteria. CST III are dominated by Lactobacillus iners, and CST IV are dominated by anaerobic bacteria normally considered to contribute to the condition of bacterial vaginosis.

"We compared the proportion of CSTs in the women who ultimately had a preterm birth to those who had a term birth," said Michal Elovitz, M.D. "The percent of non-CST III was significantly lower in samples from women delivering preterm than term. Notably, the differences in these microbial communities were evident in the late second trimester of pregnancy, weeks if not months prior to the preterm birth."

Elovitz, director of the Maternal and Child Health Research Program at the Perelman School of Medicine at the University of Pennsylvania, said that further research is required to find out how these different microbial communities contribute to preterm birth. "This study is the first to report such key differences in the CV microbial communities weeks prior to preterm birth. If differences in the CV microbial communities are confirmed, then new and exciting therapeutic strategies will emerge to prevent preterm birth."

Provided by Society for Maternal-Fetal Medicine