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Genes that regulate maternal inflammatory response, bacterial vaginosis and preterm birth related

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In a study to be presented today at the Society for Maternal-Fetal Medicine's (SMFM) annual meeting, The Pregnancy Meeting, in Chicago, researchers will show the use of haplotype tagging (hap-tag) single-nucleotide polymorphisms (SNPs) to study the relationship between genetic predispositions, an environmental factor - bacterial vaginosis, and preterm birth.

Studies previously demonstrated that genetic variation within genes that regulate the maternal inflammatory response are associated with an increased risk of spontaneous preterm delivery (SPTD). The new study sought to determine if an environmental exposure associated with maternal inflammation, bacterial vaginosis (BV), modifies these genetic susceptibilities.

The March of Dimes notes that babies born before 37 completed weeks of pregnancy are called premature, and in the United States, about 12.8 percent of babies (more than half a million a year) are born prematurely.

The study that was conducted was a prospective cohort study in which maternal DNA samples were collected from 744 women, and demographics and outcomes data were recorded. Vaginal smears for Gram-staining were obtained from subjects at 26-28 wk gestation. It studied hap-tag SNPs in 5 BioCarta and KEGG pathways in which >3 SNPs were strongly associated (P