MedicalXpress

Study suggests genetic predisposition to brain injury after preterm birth is sex-specific

February 11 2013

In a study to be presented on February 14 at the Society for Maternal-Fetal Medicine's annual meeting, The Pregnancy Meeting, in San Francisco, researchers will report that variation in a gene involved in inflammation is associated with developmental problems after preterm birth in females, but not males.

This randomized study, Sex-specific genetic susceptibility to adverse neurodevelopmental outcome after early preterm birth, may improve understanding of how developmental problems occur after preterm birth and may help identify prevention strategies.

"Preterm birth is the leading cause of childhood brain injury," said the study's author, Erin Clark, MD. "Compared to preterm girls, preterm boys are more likely to die, and survivors are more likely to have long-term problems, including disability and cerebral palsy. We don't understand why preterm boys are at a disadvantage compared to girls."

Through her study, Clark, assistant professor of Maternal-Fetal Medicine at the University of Utah School of Medicine, determined whether genetic variants influence the risk of developmental problems after a preterm birth, and whether there is a difference in risk factors between males and females.

Clark evaluated patients previously enrolled in a randomized trial of

magnesium sulfate before preterm birth for prevention of cerebral palsy. She evaluated children that died before their first birthday, or developed cerebral palsy or other developmental problems by age 2 years, and compared them to healthy children.

The research shows a variant in the inflammation gene, interleukin 6, was associated with developmental problems in females but not in males. Treatment with magnesium sulfate before birth didn't appear to change this risk.

"These results add to the evidence that inflammation genes play a role in risk of brain injury in preterm children. In addition, they suggest that genetic risk factors for brain injury after early delivery may be different in boys and girls," said Clark. "However, the effect of genes and gender on outcomes after preterm birth remains poorly understood. Additional research is necessary in order to better understand the differences in outcomes between males and females born preterm."

More information: www.smfmnewsroom.org/wp-conten … ds/2013/01/18-26.pdf

Provided by Society for Maternal-Fetal Medicine

Citation: Study suggests genetic predisposition to brain injury after preterm birth is sex-specific (2013, February 11) retrieved 3 February 2024 from https://medicalxpress.com/news/2013-02-genetic-predisposition-brain-injury-preterm.html