

Placenta pathology may clarify racial disparities in preemie health outcomes

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African-American infants are twice as likely to die in the first year of life than white infants, for reasons that are complex and not well understood. Results from a recent study suggest that specific abnormalities in the placenta from African-American preterm births may hold clues to the physical mechanisms behind racial disparities in preemie health outcomes.

Researchers from Ann & Robert H. Lurie Children's Hospital of Chicago and colleagues found that African-American race was associated with [chronic inflammation](#) of the placenta, as well as with underdeveloped or obstructed vessels in the fetal side of the placenta. These abnormalities suggest that the fetus was not getting enough oxygen and nutrients from the placenta, which may lead to poor growth, neurodevelopmental impairments, kidney dysfunction, cardiovascular problems or [lung disease](#). Findings were published in the journal *Placenta*.

"Chronic inflammation in the placenta may be associated with [maternal stress](#) during pregnancy, as well as long-term stress linked to racial disparity, socioeconomic environment, and other external influences," says senior author Karen Mestan, MD, MSCI, neonatologist at Lurie Children's and Associate Professor of Pediatrics at Northwestern University Feinberg School of Medicine. "Describing the specific pathology in the placenta from African-American preterm births may offer insights into how these social, environmental and individual factors could be registered in the body and possibly impact pregnancy

outcomes."

In the study, Dr. Mestan and colleagues compared placentas available from 296 white and 224 African-American mother-infant pairs among births at or before 32 weeks gestation. It is unclear whether the associations they found reflect a causal influence of stress.

"Analyzing the abnormalities in the placenta might also help us guide clinical management of these babies and provide more individualized treatment based on these early markers of disease," says Dr. Mestan. "Our [ongoing research](#) is looking at how identifying changes in the [placenta](#) could help prevent disease in premature infants."

More information: Nana Matoba et al, Racial differences in placental pathology among very preterm births, *Placenta* (2019). [DOI: 10.1016/j.placenta.2019.06.385](#)

Provided by Ann & Robert H. Lurie Children's Hospital of Chicago

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