

EMBARGOED FOR RELEASE until April 17, 2014 – 5:00 PM (ET)

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PRENATAL RISK FACTORS MAY PUT CHILDREN AT RISK OF DEVELOPING KIDNEY DISEASE

Highlights

- Low birth weight and maternal conditions, including diabetes and overweight/obesity, are linked the development of kidney disease in children.
- Additional studies are needed to see if modifying these factors can reduce the incidence of kidney disease.

60 million people globally have chronic kidney disease, and rates are rising in both children and adults.

Washington, DC (April 17, 2014) — Certain prenatal risk factors are associated with the development of chronic kidney disease in children, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). Future studies should investigate whether modifying these factors could help protect children's kidney health.

Risks for certain types of kidney disease may arise before birth, and researchers suspect that the development of chronic kidney disease (CKD) may be programmed prenatally. Christine Hsu, MD (University of Washington) and her colleagues sought to determine the association of childhood CKD with prenatal risk factors, including birth weight, maternal diabetes, and maternal overweight/obesity.

The researchers studied 1994 patients with childhood CKD and 20,032 controls without the disease, and the team linked maternal and infant characteristics in birth records from 1987 to 2008 to hospital discharge data.

The prevalence of CKD was 126.7 cases per 100,000 births. Infants with low birth weight were nearly three times more likely to develop childhood CKD than infants with normal birth weight. Infants were also at increased risk if their mothers developed diabetes during pregnancy or if their mothers were overweight or obese.

"We hope this research leads to further research on ways to reduce kidney disease through either early treatment or prevention that might begin even before birth," said Dr. Hsu. "Previous studies show that strict control of maternal diabetes significantly reduces

the risk of congenital malformations in children. We hope our work leads to future studies to investigate whether strict control of maternal diabetes and/or reducing maternal obesity/overweight reduces childhood CKD.”

Study co-authors include Kalani Yamamoto, MD, Rohan Henry, MD, Anneclaire De Roos, PhD, and Joseph Flynn, MD.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Prenatal Risk Factors for Childhood CKD,” will appear online at <http://jasn.asnjournals.org/> on April 17, 2014.

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