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VERY LOW BIRTH WEIGHT IS A RISK FACTOR FOR ONE CAUSE OF CHRONIC KIDNEY DISEASE

Awareness Important for Early Diagnosis of Focal Segmental Glomerulosclerosis

Washington, DC (Wednesday, November 19, 2008) — Individuals who were underweight at birth are at increased risk of developing a condition called secondary focal segmental glomerulosclerosis, according to a study appearing in the January 2009 issue of the *Clinical Journal of the American Society Nephrology* (CJASN). Because birth history is often overlooked by kidney specialists who take care of adult patients, this risk factor is likely to be under-recognized.

Patients with focal segmental glomerulosclerosis develop scarring of glomeruli, the filtering units of the kidney. This development can cause a decline in kidney function and leakage of protein into the urine.

Low birth weight (less than 5.5 pounds) caused by prematurity or slow growth prior to birth is a risk factor for adult hypertension, coronary heart disease, stroke, diabetes, and other diseases. However, its association with the development of focal segmental glomerulosclerosis has not been reported.

To investigate this potential link, Vivette D'Agati, MD, of the Columbia University College of Physicians & Surgeons in New York City, NY, and her colleagues studied six patients (two women and four men) who had clinical indications of this condition and who were born prematurely and of a very low birth weight. The patients' average age was 32 years, and their average birth weight was 3.3 pounds. They all were born between 22 and 30 weeks of gestation, compared with full-term babies who are born between 37 and 42 weeks.

The researchers performed urine tests that measured whether protein was leaking into the urine and blood tests that indicated how well the patients' kidneys were functioning. They also biopsied the patients' kidneys to analyze the tissue. All of their measurements and tests indicated that the patients had developed focal segmental glomerulosclerosis.

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The authors noted that because new nephrons—the filtering structures of the kidney—are not formed after birth, an individual's supply of nephrons is dependent on the environment in the uterus prior to birth and the extent of a fetus' growth and development. If an individual is born with a deficiency of nephrons, their kidneys may become strained, which can lead to declines in kidney function over time. This may be the scenario for individuals who were born prematurely and who go on to develop focal segmental glomerulosclerosis.

"Premature babies with very low birth weights may develop renal disease in adolescence or adulthood that is a consequence of retarded kidney development and overwork of the kidney," said Dr. D'Agati. "Doctors need to be aware of this association so that the condition is not misdiagnosed or treated inappropriately," she added.

The article, entitled "Very Low Birth Weight is a Risk Factor for Secondary Focal Segmental Glomerulosclerosis," will appear online at http://cjasn.asnjournals.org/ on November 19, 2008, and in the January 2009 print issue of CJASN.

ASN is a not-for-profit organization of 11,000 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases. ASN publishes the *Journal of the American Society of Nephrology* (JASN), CJASN, and the *Nephrology Self-Assessment Program* (NephSAP). In January 2009, the Society will launch *ASN Kidney News*, a newsmagazine for nephrologists, scientists, allied health professionals, and staff.

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