

**Contact:** Shari Leventhal: 202-416-0658, [sleventhal@asn-online.org](mailto:sleventhal@asn-online.org)

## **PRE-ECLAMPSIA MAY INCREASE RISK OF LATER KIDNEY PROBLEMS IN MOMS**

**Washington, DC (January 19, 2006)** — Women who have a pregnancy complicated by pre-eclampsia or who deliver a low-birth-weight infant may be at elevated risk of kidney disease, suggests a study in the *March Journal of the American Society of Nephrology*.

"It is well known that pre-eclampsia is associated with later cardiovascular disease in the mother," comments Dr. Bjørn Egil Vikse of University of Bergen, Norway, lead author of the new report. "Our study is the first to document a strong relationship between pre-eclampsia and low birth weight offspring and later clinical kidney disease in the mother."

The study included more than 756,000 Norwegian women who gave birth to their first child between 1967 and 1998. During an average follow-up period of 16 years, 588 of the mothers underwent kidney biopsy to obtain a tissue sample for diagnosis of kidney disease. The presence of pre-eclampsia—a relatively common complication of uncontrolled high blood pressure during pregnancy—was analyzed as a possible risk factor for later kidney biopsy.

Kidney biopsy rates were significantly increased for women with pre-eclampsia. For women with normal-weight infants, the risk of kidney biopsy was 2.5 times higher among those with pre-eclampsia. Risk was even higher for women with pre-eclampsia who delivered infants with lower than normal birth weights: 4.5 times higher for those with low-birth-weight infants and 17 times higher for those with very-low-birth-weight infants.

Kidney biopsy rates were also increased for women without pre-eclampsia who had low-birth-weight infants: 70 percent higher than for women with normal-weight infants.

Short gestational age had a similar effect on biopsy risk. By interfering with the function of the placenta, pre-eclampsia increases the risk of both low birth weight and premature birth.

The results were similar after exclusion of women who had diabetes, kidney disease, or rheumatic disease before pregnancy. Pre-eclampsia and low birth weight increased risk for all categories of kidney disease, with most of the increase occurring within the first 5 years after childbirth.

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Recent studies have linked pre-eclampsia to an increased risk of later cardiovascular illness and death in the mother. Although kidney disease and cardiovascular disease are closely related, the new report is the first large, population-based study of how pre-eclampsia affects the risk of kidney disease.

"When planning our study, we expected to find associations between pre-eclampsia and low-birth-weight offspring on the one hand and having a kidney biopsy on the other," comments Dr. Vikse. "However, we were surprised that the associations were as strong as they were and that pre-eclampsia predicted kidney disease in general, rather than specific renal diseases."

The study sheds no further light on the causative relationships among pre-eclampsia, low birth weight, and kidney disease. "It may be that pre-eclampsia and renal disease are caused by similar mechanisms, or that pre-eclampsia directly causes or aggravates underlying renal disease," adds Dr. Vikse. "Further study is also needed to determine the public health benefit of follow-up for kidney disease in women with previous pre-eclampsia."

Up to 11% of the general population has some signs of chronic kidney disease, and these individuals are at increased risk of developing cardiovascular disease. The causes of underlying kidney disease in these individuals are still largely unknown.

The study was made possible by linkage of the Norwegian Kidney Biopsy Registry and the Medical Birth Registry of Norway and demonstrates the research potentials of such population registries. It is available online at [www.asn-online.org](http://www.asn-online.org) and will appear in print in the March issue of the *Journal of the American Society of Nephrology (JASN)*.

The ASN is a not-for-profit organization of 9,000 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.

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