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A Multicenter Cohort Study of Histologic Findings and Long-Term Outcomes of Kidney Disease in Women Who Have Been Pregnant

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Abstract

Background and objectives For many women pregnancy is the first contact with health services, thus providing an opportunity to identify renal disease. This study compares causes and long-term renal outcomes of biopsy-proven renal disease identified during pregnancy or within 1 year postpartum, with nonpregnant women.

Design, setting, participants, & measurements Native renal biopsies (1997–2012), in women of childbearing age (16 to <50 years), from 21 hospitals were studied. The pregnancy-related diagnosis group included those women with abnormal urinalysis/raised creatinine identified during pregnancy or within 1 year postpartum. Pregnancy-related and control biopsies were matched for age and ethnicity (black versus nonblack).

Results One hundred and seventy-three pregnancy-related biopsies (19 antenatal, 154 postpregnancy) were identified and matched with 1000 controls. FSGS was more common in pregnancy-related biopsies (32.4%) than controls (9.7%) ($P<0.001$) but there were no differences in Columbia classification. Women with a pregnancy-related diagnosis were younger (32.1 versus 34.2 years; $P=0.004$) and more likely to be black (26.0% versus 13.3%; $P<0.001$) than controls, although there were no differences in ethnicities in women with FSGS. The pregnancy-related group (excluding antenatal biopsies) was more likely to have a decline in Chronic Kidney Disease Epidemiology Collaboration eGFR in the follow-up period than the control group (odds ratio, 1.67; 95% confidence interval, 1.03 to 2.71; $P=0.04$), and this decline appeared to be more rapid (−1.33 versus −0.56 ml/min per 1.73 m^2 per year, respectively; $P=0.045$). However, there were no differences between groups in those who required RRT or who died.

Conclusions Pregnancy is an opportunity to detect kidney disease. FSGS is more common in women who have been pregnant than in controls, and disease identified in pregnancy or within 1 year postpartum is more likely to show a subsequent decline in renal function. Further work is required to determine whether pregnancy initiates, exacerbates, or reveals renal disease.

pregnancy | renal biopsy | preeclampsia | focal segmental glomerulosclerosis | biopsy | creatinine | female | follow-up studies | glomerulosclerosis, focal segmental | humans | kidney | odds ratio | postpartum period | pregnancy | renal insufficiency, chronic | urinalysis | urinary tract physiological phenomena

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