Comparison of 12-hour Urine and Protein: Creatinine Ratio to 24-hour Urine for the Diagnosis of Preeclampsia (Poster)

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Comparison of 12-hour Urine and Protein:Creatinine Ratio to 24-hour Urine for the Diagnosis of Preeclampsia

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Abstract
The standard threshold value of proteinuria in the setting of hypertension for the diagnosis of preeclampsia is a 24-hour urine protein ≥ 300mg. Equivalently, methods have been generated for more specific and efficient tests, such as the 12-hour urine protein (12-hr) and protein:creatinine ratio (PCR), but these have not been tested prospectively. The current study was to compare the diagnostic efficacy of 12-hr urine protein and PCR for the diagnosis of preeclampsia.

STUDY DESIGN: This was a prospective observational study of women admitted to the Lehigh Valley Health Network from 7/1/2010 to 12/31/2011 for diagnosis and/or management of preeclampsia. For each patient, PCR, 12-hr and 24-hr urine specimens were collected. Only the 24-hour result was used for clinical management. Test characteristics for identifying 24-hr ≥ 300mg were calculated.

RESULTS: A total of 102 patients were enrolled during the study period, 12 of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients. Twenty-eight (31%) of which were subsequently excluded (11 delivered prior to completion, 1 was excluded due to lab error) for a final cohort of 90 patients.

CONCLUSIONS: The diagnostic performance of the 12-hour urine protein and PCR (PCR) suggests that it may be most useful in identifying patients that do not have significantly with 24-hr ≥ 300mg (r=0.99, p<0.001 and r=0.54, p<0.001, respectively).

Objectives
• Primary outcome: test performance of 12-hr urine protein and PCR to predict 24-hr urine protein ≥ 300mg.
• PCR, 12-hr urine protein, and 24-hr urine protein were collected on each subject. Providers were blinded to the 12-hr and PCR results.

Methods
• Recruitment: All pregnant women ≥ 20 weeks’ gestation admitted to the Lehigh Valley Health Network antepartum unit and undergoing a 24-hour urine collection for the diagnosis and/or management of preeclampsia from 7/1/2010 to 12/31/2011.
• Exclusion criteria: Pregnancy-related renal disease (defined as 24-hr urine protein ≥ 300mg), clinical indication for delivery at the time of admission, age <18 or >50, non-English speaking or previous enrollment in the study.
• Primary outcome: test performance of 12-hr urine protein and PCR to predict 24-hr urine protein ≥ 300mg.
• PCR, 12-hr urine protein, and 24-hr urine protein were collected on each subject. Providers were blinded to the 12-hr and PCR results.

Results

In a total of 102 patients, the diagnostic performance of the 12-hour urine protein and PCR (PCR) suggests that it may be most useful in identifying patients that do not have significantly with 24-hr ≥ 300mg (r=0.99, p<0.001 and r=0.54, p<0.001, respectively). Care was otherwise routine. Urine collection was initiated at the time of admission. Subjects were on modified bedrest.

Conclusions
13. 12-hour protein ≥ 165mg is a good surrogate for 24-hr urine protein ≥ 300mg with the potential benefit of earlier diagnosis and treatment of preeclampsia.

References