Usage of spot urine protein to creatinine ratios in the evaluation of preeclampsia

[RESEARCH: OBSTETRICS]

Wheeler, Thomas L. II MD; Blackhurst, Dawn W. DrPH; Dellinger, Eric H. MD; Ramsey, Patrick S. MD, MSPH

Department of Obstetrics and Gynecology, University of Alabama at Birmingham (Drs Wheeler and Ramsey), Birmingham, AL; and Department of Obstetrics and Gynecology, Greenville Hospital Systems University Medical Center (Dr. Blackhurst and Dellinger), Greenville, SC.

Reprint requests: Thomas L. Wheeler II, MD, Fellow, Female Pelvic Medicine and Reconstructive Pelvic Surgery, University of Alabama at Birmingham, Division of Women's Pelvic Medicine and Reconstructive Surgery, 619 19 Street South, NHB 219, Birmingham, AL 35249-7333; tlwheeler@uabmc.edu

See Journal Club, page 491

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Abstract

OBJECTIVE: The objective of the study was to prospectively compare spot urine protein to creatinine (P:C) ratios with 24 hour urine collections for protein in women being evaluated for preeclampsia.

STUDY DESIGN: A spot urine P:C ratio was obtained at the beginning of 24 hour urine collections from 126 patients admitted to evaluate for preeclampsia. Correlation between the spot P:C ratio with the 24 hour urine collections was calculated. Receiver operator characteristic curves were constructed to determine best P:C cut-offs for 300 mg and 5000 mg protein per 24 hours.

RESULTS: Random spot P:C ratios were strongly correlated with 24 hour urine protein levels (Pearson $r = 0.88$). The optimal P:C cut-offs were 0.21 (300 mg per 24 hours) and 3.0 (5000 mg per 24 hours). A P:C ratio of less than 0.21 (300 mg per 24 hours) had a negative predictive value (NPV) of 83.3% and a P:C ratio of less than 3.0 (5000 mg per 24 hours) had 100% NPV.

CONCLUSION: Urine spot P:C ratio correlated well with 24 hour urine collections for protein but was not justified as a substitute for timed collections.