

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

[RESEARCH: OBSTETRICS]

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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.