Diagnosis of preeclampsia using urinary protein/creatinine ratio

**Abstract**

**Background:** Proteinuria is the most important factor in diagnosing and management of preeclamptic patients. The use of a method providing rapid diagnosis of preeclampsia is of prime importance and critical to immediate treatment.

**Objective:** To measure the protein content of a 24-hour urine samples by determining protein/creatinine ratio in a random urine sample obtained from a pregnant women suspected of preeclampsia.

**Methods:** This was a cross-sectional study carried out in Kosar hospital, Qazvin, Iran, during 2003-2004. The subjects were 50 pregnant women with gestational age≥ 20 weeks and blood pressure≥140/90. Following admission, the protein content of a 24-hour urine sample was measured and later, a random urine sample collected for determination of protein/creatinine ratio. Correlation coefficient between 24-hour proteinuria and protein/creatinine ratio was further calculated.

**Findings:** Among 50 pregnant women, 12 cases had a proteinuria >300mg/day and 38 with proteinuria <300mg/day. Regarding the results of our study, a protein/creatinine ratio of ≤0.25 was compatible with 24-hour proteinuria <300mg and similarly, a protein/creatinine ratio of >0.25 with 24-hour proteinuria >300mg (r=0.99, p=0.001). Sensitivity, specificity, and the positive/negative predictive value for this ratio was 98% with an accuracy of 96%.

**Conclusion:** Determination of protein/creatinine ratio of a random urine sample could predict significant proteinuria (>300mg/24h).

**Keywords:** Pre-eclampsia, Proteinuria, Creatinine.