The Predictive Significance of Serum Creatinine in Management of Pregnancy Induced Hypertension: A Preliminary Study at the Teaching Hospital, Jaffna

R Madhurahini[1#], V Balayasothini[2], J Jeneni[2], V Arasaratnam[1], and K Muhunthan[3]

[1]Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka
[2]Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka
[3]Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Jaffna, Sri Lanka

[#]madu110398@gmail.com

Pregnancy-induced hypertension (PIH) is a significant complication affecting maternal and foetal health. Identifying a reliable predictive marker for early prediction and diagnosis is crucial for effective management and prevention of adverse outcomes. This study was conducted to evaluate the effectiveness of serum creatinine as a predictive marker for hypertensive disorders in pregnant women. An analytical cross-sectional study was designed, and the population was categorized based on blood pressure readings, where 34 pregnant women with normal blood pressure (BP) and 34 pregnant women with PIH (140/90 mmHg on two or more occasion and without proteinuria). Serum creatinine levels were measured by Jaffe alkaline picric acid kinetic method. Receiver-operating characteristic curve analysis was employed to determine the diagnostic performance. The mean serum creatinine level was significantly ($p < 0.001$) higher in pregnant women with PIH than in pregnant women with normal BP [0.76 ($\pm$ 0.17) vs 0.53 ($\pm$ 0.06) mg/dL respectively]. The area under curve (AUC) of serum creatinine was 0.950 (sensitivity: 91.2% and specificity: 85.3%) with the cut-off point of 0.585 mg/dL. The finding was evident that serum creatinine is a strong predictor for hypertensive disorders in pregnant women, with significantly higher levels in those with PIH. The study revealed the importance of monitoring serum creatinine levels in pregnant women with PIH for early identification of hypertensive disorders, supporting its use in clinical practice for risk stratification. Despite the significant findings, further research is warranted with more samples to determine the broader applicability of serum creatinine as a universal predictive marker across diverse populations.

Keywords: *predictive significance, serum creatinine, pregnancy induced hypertension*