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SERUM CYSTATIN – C AS A POTENTIAL PREDICTOR OF RENAL DAMAGE IN PRE-ECLAMPSIA

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Objectives: *Pre-eclampsia is a pregnancy-related disorder characterized by hypertension, proteinuria, and edema. Serum cystatin C is a novel marker for the early detection of renal damage in pre-eclampsia. Therefore, the study aimed to determine the average value of renal function indexes and some factors related to serum cystatin C levels in pre-eclamptic pregnant women.*

Methods: *A case-control study investigated two pregnant women groups: 50 healthy pregnant women (group A) and 50 pregnant women with pre-eclampsia (group B) at Can Tho Obstetrics and Gynecology Hospital, Vietnam, from July 2021 to July 2022. We collected blood samples and urine samples to analyze the serum cystatin C concentration and the indices of renal function.*

Results: *The average maternal age of healthy pregnant women and pre-eclampsia group was respectively 31.3±6.4 and 33.5±6.4 years old (p>0.05), and the gestational age of the healthy group and pre-eclampsia group was 37.0 and 37.1 weeks (p>0.05). Indices of kidney function in 2 groups of healthy pregnant women and pre-eclampsia pregnant women were, respectively: serum creatinine (Scr) 50.7±8.9 and 54.5±11.4µmol/L (p>0.05), serum cystatin C (ScysC) 0.9±0.21 and 1.4±0.18mg/L (p<0.01), 24-hour proteinuria 221.3±35.3 and 799.5 (306-3720) mg/24 hours (p<0.01), urine creatinine 1253.6±424.9 and 1390.8±480.7mg/24 hours (p>0.05), 24-hour creatinine 153±48 and 162.5±62mL/min (p>0.05). The correlation between Scr, ScysC, and 24-hour creatinine clearance in group A was r1=-0.52 (p<0.001), r2=0.06 (p=0.695); in group B, was r3=-0.45 (p=0.001), r4=0.26 (p=0.064). The correlation between Scr, ScysC, and 24h proteinuria in group A was r5=0.05 (p=0.851), r6=0.26 (p=0.064); in group B, was r7=0.24 (p=0.094), r8=0.36 (p=0.01), respectively.*

Conclusions: *Serum cystatin C seems to be not as accurate as serum creatinine in evaluating the glomerular filtration rate in pregnant women; however, this is a promising biomarker for the early detection of renal injury in preeclampsia.*