

Platelet Parameters as Predictors of Preeclampsia Severity: Insights from Iraq

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Pre-eclampsia: is a significant cause of maternal mortality globally, including in the Middle East and Iraq, necessitating better diagnostic and prognostic tools.

Objective: To evaluate the utility of platelet indices; Mean Platelet Volume (MPV), Platelet Distribution Width (PDW), & Platelet Crit (PCT) in assessing the severity of pre-eclampsia, particularly in non-thrombocytopenic cases.

Methods: A cross-sectional study was conducted at Al-Elwiyah Maternity Teaching Hospital involving 300 pregnant women (150 with pre-eclampsia & 150 healthy controls). Data were collected through questionnaires, physical exams, & lab tests assessing platelet indices (MPV, PCT, PDW). The analysis focused on comparing complications & evaluating the predictive value of platelet indices for pre-eclampsia severity.

Results:
Demographics:
No significant differences in maternal age, gestational age, or parity between pre-eclampsia cases and controls.

Platelet Indices:
Platelet Count & PCT: Lower in severe pre-eclampsia.
MPV & PDW: Higher in severe pre-eclampsia.

ROC Curve Analysis:
MPV: AUC = 0.95, sensitivity = 81.3%, specificity = 85.8%.
PDW: AUC = 0.926, sensitivity = 92%, specificity = 86.7%.
PCT: AUC = 0.945, sensitivity = 70.7%, specificity = 94.7%.

Conclusion: MPV & PDW show a strong correlation with the severity of pre-eclampsia. They are effective, low-cost predictors that support early intervention and better outcomes. These routine blood indices can help reduce maternal & fetal risks, especially in resource-limited settings.

