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The use of chronic kidney disease classifications in obstetric medicine: a retrospective cohort study for predicting perinatal outcomes

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Objective

To evaluate the utility of KDOQI and KDIGO classifications for chronic kidney disease (CKD) in predicting perinatal and maternal outcomes and to compare the prognostic ability of each of them.

Methods

Retrospective cohort study was performed in a tertiary centre, Health Care Institution in Mexico City. A total of 136 pregnant women with chronic kidney disease were included in the study. Demographic, obstetric, perinatal data and blood test results were collected from health records. CKD was defined according to KDOQI and KDIGO guidelines. Pearson correlations, contingency tables and repeated measures analyses of variance were used to assess relations and differences between groups. Logistic regression models examined associations between CKD and adverse pregnancy outcomes.

Results

Initial and final measurements of blood urea nitrogen (BUN) and creatinine had similar levels in KDOQI and KDIGO categories. Women within KDOQI and KDIGO category 5 had an increased risk of developing polyhydramnios (OR= 5. 4 and 5. 6, respectively), and abortion and preterm birth (OR= 5. 4 and 5. 6, respectively) compared to categories 1, 2, 3 and 4. Pregnant women within KDOQI category 3 and KDIGO category 3a had an increased risk for developing preeclampsia (OR= 3. 7 and 4. 9).

Conclusion

KDIGO and KDOQI classifications may predict perinatal outcomes similarly. However, the sole use KDOQI and KDIGO guidelines, which are developed in non-obstetric populations, may not completely resolve the needs of clinicians to determine maternal and perinatal risks of pregnant women with chronic kidney disease.