Incidence, risk factors, and outcomes associated with pregnancy-related acute kidney injury in Northwest Nigeria

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Abstract

Introduction: Although largely preventable, pregnancy-related acute kidney (PRAKI) continues to be a significant contributor to maternal and perinatal mortality in low- and middle-income countries. Data are scarce on the incidence and impact of PRAKI in Nigeria. Thus, this study aimed to evaluate the incidence, risk factors, and maternal-fetal outcomes of patients with PRAKI.

Methods: This is a prospective multicenter study conducted among 841 women at the Obstetrics and Gynecology units of two large referral hospitals in urban Kano, Nigeria, between 1st October to 30th March 2023. We employed multivariate logistic regression analysis to determine independent predictors of PRAKI in this resource-constrained setting.

Results: The mean age ± standard deviation (SD) of respondents was 27.8 ± 6.7 years. The prevalence of PRAKI was 11.4%, with the majority (55.2%) being in KDIGO stage 1. The most common risk factors for PRAKI were pre-eclampsia (24%), postpartum hemorrhage (16.7%), sepsis (15.6%), and eclampsia (14.6%). The overall maternal and perinatal mortality rates were 7.4 % and 21.9 %, respectively. PRAKI was independently associated with the use of traditional medications (adjusted odds ratio, aOR =1.94; 95% CI: 1.18, 3.18), history of pregnancy-induced hypertension (aOR = 2.61; 95% CI: 1.49-4.59), an established diagnosis of hypertension (aOR = 2.53; 95% CI: 1.42, 4.50), and advanced maternal age (aOR=0.50; 95% CI: 0.27-0.92, ≥35 years vs. 18-24 years).

Conclusion: PRAKI is common in women presenting for care in our setting and is associated with significant maternal and perinatal mortality. The important risk factors for development of PRAKI in our study population include hypertensive disorders of pregnancy, established diagnosis of hypertension, postpartum hemorrhage, and sepsis.