



Congress Abstract

Predictors of Adverse Pregnancy Outcomes in Women with Kidney Disease: The Impact of CKD Severity and Hypertension

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ABSTRACT

Background: Pregnancy in women with kidney disease is associated with an increased risk of maternal and obstetric complications, including preeclampsia, preterm delivery, and deterioration of kidney function. The risk increases with advancing chronic kidney disease (CKD) and may be further influenced by hypertension and proteinuria. Data on pregnancy outcomes among women with kidney disease in Central Asia remain limited. This study aimed to characterize kidney disease in pregnancy and identify factors associated with adverse pregnancy outcomes.

Methods: We conducted a retrospective single-center cohort study including 80 hospitalizations of 79 pregnant women with kidney disease between 2022 and 2026. Demographic characteristics, kidney disease categories, comorbidities, laboratory parameters, and pregnancy outcomes were analyzed. A combined adverse outcome was defined as at least one of the following: CKD progression, dialysis initiation, preeclampsia, eclampsia, HELLP syndrome, or pregnancy termination for medical indications. Logistic regression was used to identify factors associated with adverse outcomes.

Results: Urinary tract infections accounted for 49.4% of kidney-related diagnoses and glomerular diseases for 35.4%. Hypertension was present in 28.8% and anemia in 61.8% of cases. Women with glomerular diseases had significantly higher 24-hour proteinuria than women with other kidney disorders (1.3 [0.6–3.3] vs 0.1 [0.0–0.5] g/day; $p < 0.001$). A combined adverse outcome occurred in 10/80 (12.5%) hospitalizations and was markedly more frequent in women with CKD stage ≥ 3 than in those with CKD stage < 3 or without CKD (83.3% vs 7.2%; $p < 0.001$). In univariable analysis, CKD stage ≥ 3 (OR 43.00; 95% CI 5.07–364.80), hypertension (OR 24.68; 95% CI 3.93–154.88), higher admission creatinine (OR 2.70 per 1 SD; 95% CI 1.43–5.09), and higher 24-hour proteinuria (OR 2.20 per 1 SD; 95% CI 1.17–4.16) were associated with adverse outcomes. In multivariable analysis, CKD stage ≥ 3 (OR 20.29; 95% CI 1.58–260.05) and hypertension (OR 18.62; 95% CI 2.61–132.74) remained independently associated with adverse outcomes.

Conclusion: Advanced CKD and hypertension were the strongest predictors of adverse pregnancy outcomes. Assessment of kidney function, blood pressure, and quantitative proteinuria may facilitate early risk stratification and identify women requiring intensive multidisciplinary nephrology and obstetric surveillance.

Keywords: Pregnancy; Chronic Kidney Disease; Hypertension; Proteinuria; Adverse Pregnancy Outcomes; Glomerular Disease

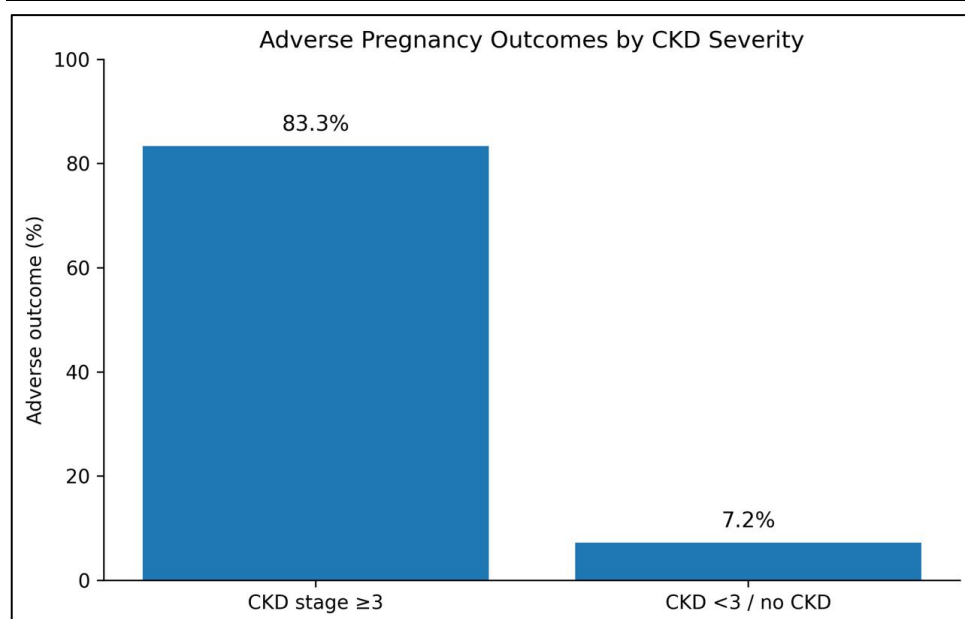


Figure 1. Adverse Pregnancy Outcomes by CKD Severity

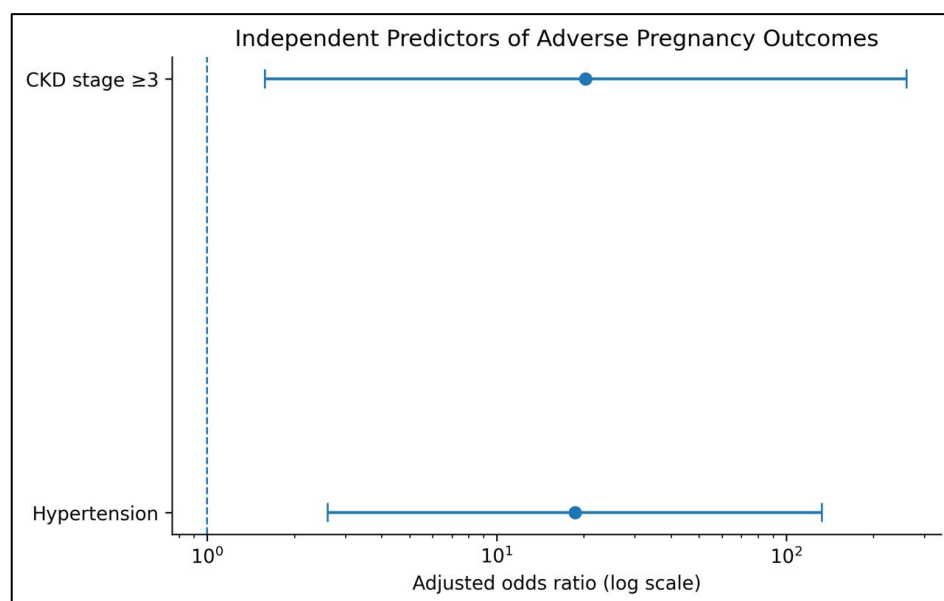


Figure 2. Independent Predictors of Adverse Pregnancy Outcomes

Table 1. Key Clinical Characteristics and Outcomes

Characteristic	Value
Hospitalizations / pregnant women	80 / 79
Urinary tract infections	49.4%
Glomerular diseases	35.4%
Hypertension	28.8%
Anemia	61.8%
24-hour proteinuria: glomerular disease	1.3 [0.6–3.3] g/day
24-hour proteinuria: other kidney disorders	0.1 [0.0–0.5] g/day
Combined adverse outcome	10/80 (12.5%)
Adverse outcome: CKD stage ≥ 3	83.3%
Adverse outcome: CKD < 3 / no CKD	7.2%