



Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care

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Adverse outcomes after surgeries in patients with chronic kidney disease: a multicenter clinical study

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Objectives : The perioperative risk of patients with chronic kidney disease (CKD) is not completely understood. Our purpose is to evaluate the postoperative complications and mortality among patients with CKD.

Methods : Data on biochemical measurements, diagnosis codes for CKD, and comorbid conditions for surgical patients aged ≥ 20 years were obtained from electronic medical records of three large hospitals in Taiwan between 2009 and 2017. We conducted this multicenter study using propensity-score matching to balance baseline characteristics between the CKD and non-CKD groups. Multiple logistic regression analysis was employed to estimate the odds ratios (ORs) and 95% confidence intervals (CIs) for risks of the postoperative complications and mortality during the perioperative period associated with CKD.

Results : Among 31,950 eligible surgical patients, patients with CKD exhibited a significantly higher risk of in-hospital mortality compared with non-CKD controls (adjusted OR 5.49; 95% CI 3.42–8.81). Specifically, the adjusted ORs for postoperative septicemia, pneumonia, and cellulitis in the CKD group were 5.90 (95% CI 2.12–16.5), 5.39 (95% CI 1.37–21.16), and 4.42 (95% CI 1.57–12.4), respectively. Furthermore, CKD was significantly associated with an increased risk of postoperative stroke (OR 2.21; 95% CI 1.47–3.31).

Conclusions : Patients with CKD are at an increased risk of postoperative stroke, infectious complications, and mortality. Our study suggests that it is crucial to optimize hemoglobin and potassium levels in patients with CKD prior to surgery. Targeted preventive strategies should be developed to improve clinical outcomes in this high-risk population.