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Adverse Outcomes after Non-urological Surgeries in Patients with Chronic Kidney Disease: A Matched Nationwide Study

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Objectives: The outcome after surgeries in patients with renal dialysis remains incompletely understood. We evaluated complications and mortality after non-urological surgeries in patients with renal dialysis.

Methods: We conducted a matched cohort study of 8937 patients with renal dialysis who underwent non-urological surgical procedures using Taiwan's National Health Insurance Research Database 2008-2013 claims data. Using a propensity score matching procedure, 8937 non-dialysis patients were selected for comparison. Logistic regression was used to calculate the odds ratios (ORs) and 95% confidence intervals (CIs) of postoperative complications and in-hospital mortality associated with renal dialysis.

Results: Patients with renal dialysis had higher risks of postoperative septicemia (OR 1.78, 95% CI 1.68-1.89), pneumonia (OR 1.60, 95% CI 1.48-1.73), stroke (OR 1.34, 95% CI 1.24-1.44), and in-hospital mortality (OR 2.17, 95% CI 1.90-2.47) compared with non-CKD patients. Longer hospital stays and higher medical expenditures after non-urological surgical procedures were noted in patients with renal dialysis. The association between renal dialysis and postoperative adverse events was significant in both sexes, all age groups, and other subgroups. History of myocardial infarction, epilepsy, and more than 70 years of age were factors significantly associated with postoperative adverse events.

Conclusions: Surgical patients with renal dialysis showed more adverse events, with a risk of in-hospital mortality approximately 2-fold higher after non-urinary surgeries compared with non-dialysis patients. These findings suggest the urgent need to revise the protocols for postoperative care for this population.