
Epidemiology and Long-Term Outcomes of Severe Acute Kidney Injury in Thailand: A Prospective Multicenter Study

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Abstract

Background: Acute kidney injury (AKI) contains a high short-term morbidity and mortality. However, little is known regarding long-term outcomes. We aimed to evaluate 1-year major adverse kidney events (MAKE₃₆₅) in patients with severe (stage 3) AKI by kidney recovery patterns at 28 days or hospital discharge.

Methods: We analyzed the data from InSEA RRT registry—a multicenter prospective cohort study conducted between January 2021 and January 2022. Critically ill patients with stage 3 AKI as defined by KDIGO were enrolled and classified by recovery status after 28 days or at hospital discharge as early, late, and nonrecovery. Primary outcome was MAKE₃₆₅ which is a composite of persistent kidney dysfunction, long-term dialysis, and all-cause mortality on day 365 after enrollment.

Results: A total of 1,534 patients from 14 hospitals across Thailand were enrolled. Among these, 755 (49%) patients died, 401 (51%) patients experienced early recovery, 188 (24%) late recovery, and 190 (24%) never reversed AKI. The incidence of MAKE₃₆₅ was 68.4 per 100 person-years of all patients. Nonrecovery were more likely to develop MAKE₃₆₅ than recovery (adjusted HR 4.24 ;95% CI, 3.20-5.61; P<0.001). The incidence of new CKD and CKD progression were 82.8 and 42 per 100 person-years. Patients with older, cancer, mixed ICU, and no nephrologist follow-up were also at risk for MAKE₃₆₅.

Conclusions: Nonrecovery AKI was independently associated with adverse long-term outcomes. Recognition and close follow-up of patients with non-recovered AKI is crucial. Novel intervention might improve long-term outcomes and need further study.

Keywords: acute renal failure; mortality; death; prevalence; incidence

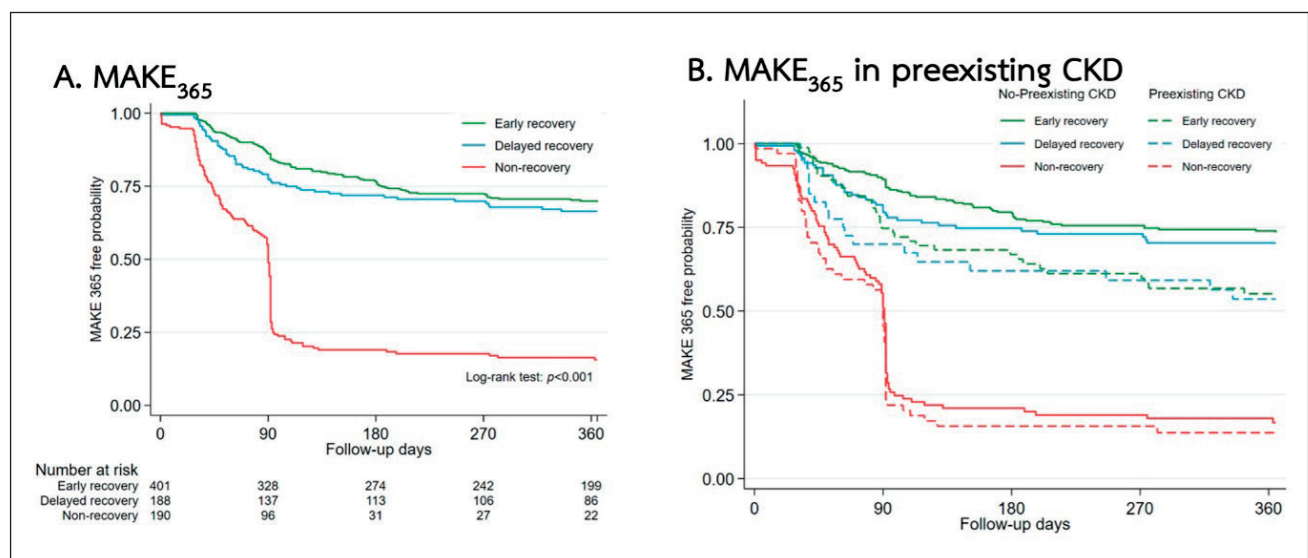


Figure 1