Outcomes of the patients who underwent renal replacement therapy during the perioperative period of cardiac surgery

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Objectives: Dialysis requiring acute kidney injury (AKI-D) is one of the serious complications occurs during the perioperative period of the cardiac surgery. AKI-D is known to increase in short-term in hospital mortality. Nevertheless, long term prognosis and risk of major cardiovascular events (MACE) among these patients has not been examined yet.

Methods: We conducted a nationwide, population based cohort study. The data were obtained from the Korean national health insurance system. Patients who admitted to the ICU in tertiary hospitals in Korea during the perioperative period of cardiac surgery for the first time between 2006 and 2015 were considered. Patients who previously received RRT, admitted to ICU before the index admission, or received cardiac surgery within 3 years before the index admission were excluded. Then, patients were divided into those who underwent RRT during the perioperative period of cardiac surgery and those who did not.

Results: Of 25,915 patients, 620 underwent RRT during the perioperative period of cardiac surgery. All-cause mortality [adjusted hazard ratio (HR) 2.272 (1.921-2.688), P

Conclusions: All-cause mortality, renal survival and risk of MACE were worse with the application of RRT during the perioperative period of cardiac surgery. Despite higher patient severity in patients requiring CRRT, outcomes among these patients were not deteriorated, compared to the patients who received IRRT.