

Initial ER- 6 hour Urine Volume is an Important Factor for Critically ill Patient's Survival

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Background/Aims: Numerous clinical indicators including APACHE II, SAPS II, and SOFA have been suggested for predicting the survival and prognosis in critically ill patients. However, there have been few factors affecting the survival of critically ill patients in the early stages of admission to the emergency room. We evaluated which factors in the early stage of the ER affect the survival of the patient.

Methods: This single center retrospective chart review study of patients admitted to intensive care unit via ER between March 2018 and May 2021. Exclusive criteria included patients with chronic kidney disease or renal replacement therapy for ESR. Mortality rate and dialysis-free survival were evaluated.

Results: Among the 332 patients admitted to intensive care via ER, those with an HD of 82, PD of 3, POLST of 6, CKD stage IV of 20, and the others of 31 were excluded. 190 patients were divided into two groups based on urine volumes of 180ml/6hr in accordance with the AKI KDIGO guideline. The patients with lower than 180ml/6hr showed higher 30 days (p-value 0.004) and 90 days mortality rate(p-value 0.001), compared to the patients with higher than 180ml/hr. However, initial eGFR (p-value 0.263) and initial NGAL (p-value 0.053) did not affect to mortality. For dialysis free survival, the patients with higher than 180ml/6hr, initial higher eGFR, initial lower than 167 ug/L NGAL showed better results.

Conclusions: For critically ill patients admitted to the ICU via ER, the initial 6 hours urine volume is a critical factor on the patient's 30-day and 90-day survival.

